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COLLECTANEA JACOBI

IN EIGHT VOLUMES

VOLS. I, II AND III, PEDIATRICS

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VOLS. VI AND VII, IMPORTANT ADDRESSES, BIOGRAPHICAL, AND HISTORICAL PAPERS, ETC.

VOL. VIII, MISCELLANEOUS ARTICLES, AUTHORS' AND COMPLETE TOPICAL INDEX

DR. JACOBI'S WORKS

COLLECTED ESSAYS, ADDRESSES, SCIENTIFIC PAPERS AND MIS- CELLANEOUS WRITINGS

OF

A. JACOBI

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IN EIGHT VOLUMES

EDITED BY WILLIAM J. ROBINSON, M.D.

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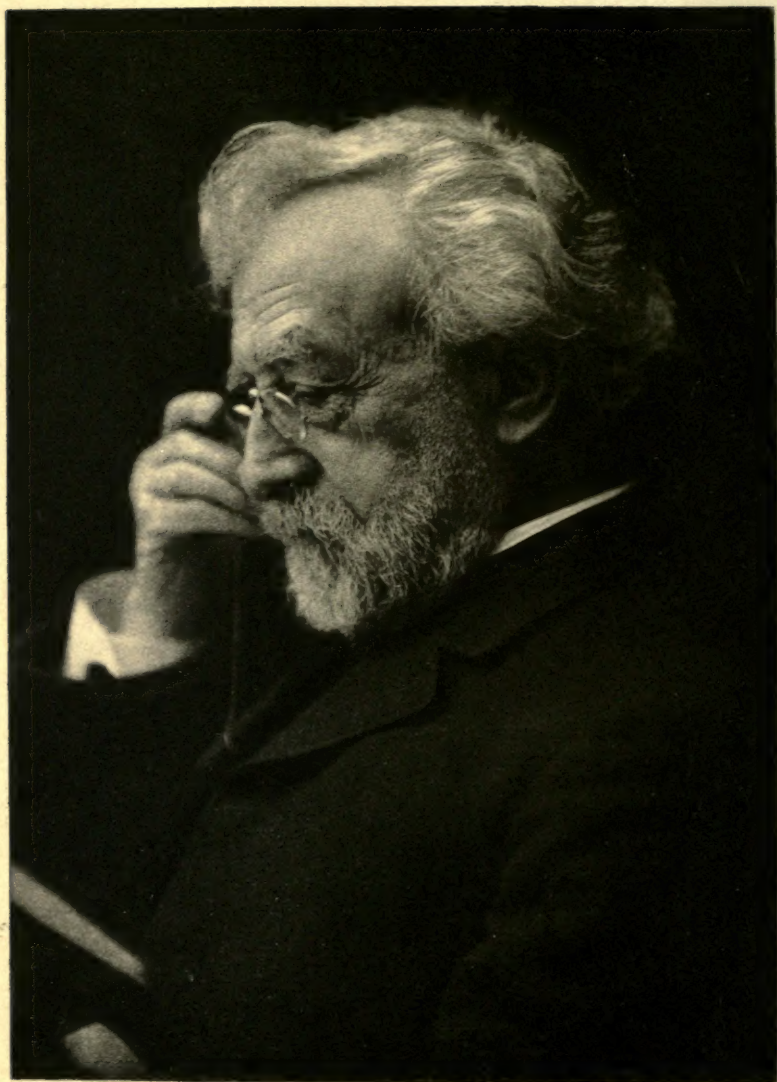


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A. Iarobi

MISCELLANEOUS
ADDRESSES
AND WRITINGS

BY
A. JACOBI, M.D., LL.D.

VOL. VII

EDITED BY WILLIAM J. ROBINSON, M.D.



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PRESIDENT'S ADDRESS BEFORE THE MEDICAL SOCIETY OF THE COUNTY OF
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. . . IN the foregoing, gentlemen, I have not confined myself to simply a few introductory remarks. If I were more eloquent, I should have tried to thank you, in more appropriate terms than I shall probably be able to command, for the honor you have conferred upon me in electing me your President for the ensuing year. As it is, I have considered it my duty to contribute something to the scientific ends of the Society, the more so as there are only eight or nine stated meetings during the year designated for that purpose, and for the further reason that you have deemed proper to effectually seal my lips for the next twelve months.

Still it would be improper not to express the thanks I feel for the honor you have given, and which I certainly had no reason to expect, inasmuch as I *have* had the pleasure of being chosen your Vice-President a few years ago.

I will not speak of the customary surprise at my election, nor will I say that it was undesired or unhopd for. The honor of being the President of the largest medical society in the United States—this society being, moreover, the County Medical Society—is certainly worth craving and hoping for; and therefore I trust that you will appreciate my thanks, as I your good-will.

There is only one duty left to me this evening—just to give you my ideas on the position this Society ought to hold, and its duties in relation to science, to its individual members, to the public, and to the body politic. Do not fear I shall be too prolix on these points. But I think the Society justified in wanting to know the views of its officers on the most important matters.

The stated meetings of this Society are principally dedi-

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cated to the reading of scientific papers and to their discussion. I believe that, as long as I have been acquainted with the working of the Society, its efforts compare favorably with the merits of other societies. Some of the papers I remember to have listened to were far above the average, and replete with new ideas and fertile suggestions. But we suffer from one circumstance, which has crippled our progress and detracted from the scientific value of our exertions. We have good physicians and surgeons, we even have eminent men in many branches of the exact sciences. But we have, with very few exceptions, no profession of learning, no men who can afford to give their whole time to study, to independent work. The great names of medical science are all European. And Europe would be very willing indeed to receive us amongst the best of her own. The Notts and Gliddons, the Mortons, Sillimans, Wormleys, Flints, the Elliots and Thomases, the Grosses, Peaslees, and others, are so well appreciated on the other side of the Atlantic that America, while proud of what has been attained under the most difficult circumstances, ought to look for means to improve her scientific standing and usefulness.

It has long been a pet idea of mine that the County Medical Society will one day help in solving the question how science can be delivered from the weight of daily mechanical toil which so impedes the freedom of thinking and working; that it will aid in creating institutions that shall be worthy of the country we live in, and afford the means, to such as by nature are destined to become the teachers of their fellows, to follow the inspirations of their genius without the spectre of necessity driving them into the hardship of daily mechanical work. Such men as Europe possesses by the score are absolute requisites for us. It is true that electricity and steam have made the world one country, and that no secrets are known in the republic of science that are not common good. But the life of civilization is reciprocity; it will not do always to take without giving. We have the greatest territory, the longest railways, the largest steamboats, the most extensive telegraphs, the boldest bridges and buildings, and the

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smallest original scientific literature. The wants are clear. Let us all do our share in elevating our science, ourselves, and each other.

I believe that a large number of our members will agree with me on one point concerning the composition of this Society. Not everybody can be a great genius; there are but few such; average intellect is what most of us have to be satisfied with, and beyond the gifts of nature we cannot possibly go, neither we nor the members of any other profession or society. But there is one thing which can always be of the highest order, because it but partially depends on intellect and education. It is wisdom and morals. While we have to be satisfied with the mental powers we can command amongst us, we must command the morals, not of the average, but of the best. I speak in my own name, and in that of my colleagues, when I ask you to help us in gaining the co-operation of the best men that can be found, and in keeping out or driving off such as ought not to belong to us. We ought not to believe that any profession ennobles a man who is not worthy to enter. There is no trade or profession that can be protected from unworthy intruders. If there is any profession, however, which deserves not to be thwarted by them, it is ours.

If it must be our object to obtain the good-will and active co-operation of good men, I entreat you, gentlemen, to help your Board in enlisting those amongst our members, whom we see here but rarely, for active work. Some of the best men of the city, who are members of our Society, are absent more frequently than the interests of the Society will permit. To whom much is given, from those much is required. If the dignity, the solidarity, of the medical profession of the city and county is to become a fact, not one member ought to refuse to go on duty. There are always more men willing to listen and learn than there are such as are able and willing to teach. I do not make this remark with regard to such of our members only as have gained a well-deserved reputation by life-long work, but also with special regard to those younger men in whose brains the future of American science is getting

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prepared, who are given to studies of a special nature and to exact investigations.

Only those who do their full duty to themselves and their fellows will have a right or a chance to modify our relations to the public and also to the body politic. I do not speak of the individual relations of the physician to his patients—rules cannot be given in regard to these—but of his relations to them in matters of common interest: for instance, public institutions. We live under peculiar circumstances. Our political organization is such that our theory is frequently better than our practice. We have the best constitution on the globe, a constitution framed by wise men and adapted to wise and prudent men, and at the same time as large a class of ignorant and illiterate fellow-citizens in the territory of the United States as any other civilized, even monarchical, country. We have the good republican rule of electing the best men to offices—and they say it has happened that a bankrupt mechanic has become the moral and mental leader of a large community, or an incompetent tradesman all at once a wise statesman, the saviour of his country, politically. The remedy will be found in a civil service bill, the necessity for which is so generally felt that it is a Republican Senator and a Democratic Representative who have undertaken the task of securing it.

In our public relations, generally, we have to deal with similar difficulties. As a country we are young, upstart, and are suffering from all the incongruities of upstart communities. The great process of growth, helped by unbounded appetite and good digestion, is not yet finished. Society is by no means in a stable condition. As there are marble palaces and hovels in close proximity, so we have sudden wealth and young education—very young and unfinished education—under the same roof. Society is not always ruled by the best; it is usually controlled by the powerful and the ambitious. The greatest and most uncontrollable power is money, no matter whether it is made by brain work, industry and saving, or by blockade running, shoddy, or stock jobbing.

The public institutions, in which the medical profession

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takes a lively interest, are controlled to a great extent by money, family, clique, or political influence. They ought to be the subjects of the closest attention on the part of the profession as such. United efforts in that direction will prove efficient; for, certainly, in every board, no matter how composed, there ought to be some members willing to do their best. We ought not to despair of human nature to such an extent as to believe that there should not be some who would be glad to be guided by the judgment of experts rather than by their own inexperienced intuition. I have always thought that the County Medical Society, by studying the affairs, the statistics, resources, results, merits, and shortcomings of our public institutions, would work in just the proper sphere and for the benefit of our fellows and of science. There is no medical community which has more talent, and not one which has more authority. It is our duty as well as right. The Medical Society of the County is, moreover, through the State Medical Society, intimately connected with the State and its politics. I know the time will come when the opinion and advice of the County Medical Societies and the State Medical Society will be asked for in regard to one most important matter—I allude to medical education. The material wealth and power of the country had its best help in decentralization; but private means and competitive effort do not appear to be able to afford the millions, collect the genius and talent, and create the museums and institutions worthy of seats of learning, such as Europe boasts of by the dozen. If the time will come for such progress, the task of advice and practical interference will be with the County Medical Society.

I give these hints, believing in their being correct, requesting the gentlemen to keep them in view; and finally begging you to believe that, whether they are wrong or right, I shall be but too willing to work with you for our common interests.

INAUGURAL ADDRESS, INCLUDING A PAPER ON INFANT ASYLUM FOUNDLINGS

I HOLD in my hands the record of the members of this Society in the last year. There are names among them of men who no longer adorn these seats. There is not one of them who has not been, when he had passed away from us, honorably mentioned by us; there are a few whose loss all of us will long mourn, and whose memories we shall forever cherish. The two members to whom I consider it my sacred duty to allude were Dr. Bibbins and Dr. George T. Elliot.

Dr. Bibbins was for many years a member of your Comitia Minora, and your Treasurer. To say that he was a diligent and trustworthy officer, although that is saying a great deal, is not much when we recollect his untiring industry in behalf of the honor and standing of this Society, and of the profession in general. There are but few who, with equal erudition, and tact, and zeal, and *modesty*, have untiringly worked for common interests as he did to the hour of his last sickness; which may have found its work of destruction easy in one whose nervous system was overstrained and exhausted.

Dr. Elliot was one of those to whose exertions this Society owes a great part of its flourishing condition. It was his ambition and pride to gather large numbers of members, secure good papers and worthy discussions, and to hold extra meetings. We owe his memory thanks for what he has accomplished in that line. It is true that his predecessors had facilitated his work, for there was no society in the city that had shown a better record for many years when he commenced his useful career as our President in 1868. But it is also true that no public man in a public place was ever more diligent, zealous, and at the same time gracious. To his other private and public vir-

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tues I need not allude; they have been recalled to your mind from this place before to-night. Whenever his name will be mentioned, we shall remember a gentleman, a man of taste, a refined scholar, and an amiable colleague. I have to thank him, personally, for my finding the Medical Society of the County of New York, when I had the honor of being the first time elected to preside over your meetings a year ago, large in numbers, regular in attendance, earnest in purpose, and progressive in spirit.

Fortunately, death has not been the only power that has marked its changes among us. The records of last year exhibit a rapid increase of our members. Seventy medical men have joined our ranks, against eight of whom death has taken from our midst and a few who have left the city and country. I hail this fact with joyful expectations of further increase. It shows that individualism is not the paramount tendency of medical men as a class, and that the universal law of centripetal attraction exerts its power. It proves that medical men are aware of the existence of common interests which can better be served by large bodies than by the few or the one. The liberty of the individual is not thwarted by a certain amount of centralization. Hundreds of private men feel the necessity of closing up into a regiment, in order and discipline. Small communities and states, with the same language, customs, and interests, have for centuries, up to this very year, sought and found means to abolish artificial boundaries and melt into one. Decentralizing State rights have been wiped out with fire and blood to develop the growth and power of a great country, free at last, which is destined to be the harbor and fosterer of the civilization of the republican world of the future, as it has become the protector and home of fugitive republicans of Europe. Thus the tendency to follow the laws of attraction and gravitation yields its fruits in the political, the social, the literary fields. The readiness with which new names are added to our lists proves to what extent, consciously or unconsciously, medical men feel the necessity of uniting their strength. It will be our duty to prove that, even without our legal standing in relation to the political administra-

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tion, we have attractive power enough to hold them and to grow; but at the same time it will also be our bounden duty to improve the advantages of our legal standing in the interest of our members, our Society, the medical profession, and the public at large. I hope to be capable within a short time of pointing out the possibilities of availing ourselves of our connection with the State and the other county medical societies for the benefit of both the profession and the community.

Among the additions to our number during the last year I notice dozens of foreign names; the schools and universities of Great Britain, Germany, France, Switzerland, Poland, and Russia have sent their pupils to swell our ranks, while our own schools have offered their full share as heretofore. Thus our Society but repeats the historical and ethnological fact of our great Commonwealth, which has been the result of the mixture of all the nations of the universe. While, however, the question of the beneficial influences of such mixture has, from a political point of view, sometimes not been considered as settled to universal satisfaction; while even a dozen years ago there could be, as a political issue, a strong party of nativists, there was never, to my knowledge, in the liberal profession to which we belong, any such party feeling. For those of us who are old enough will remember that just in those years which engendered and saw the political efforts of Know-nothingism, a small number of foreigners, who are still among us, were bidden a hearty welcome in your midst, and have even been promoted since to the highest honors the profession can confer upon any member.

The difference in the reception and appreciation of the foreign-born member of the profession from what we notice in political life now and then, is very suggestive. The United States, for instance, claims the necessity of a five years' residence before a new-comer can be admitted to citizenship. Five years are considered necessary to acquaint the average immigrant with our constitution and the spirit and the habits of our republican people; they are considered an apprenticeship for those whose lives have been spent under monarchical rule. But as soon as

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they are considered to be imbued with the principles of republicanism and its practical working they are admitted as equal. There is no doubt but that, if the necessary knowledge and habit should be thought accessible in less time, the term of five years would be reduced. We have the proof of this assertion in the fact that a number of States have reduced the term of preparatory residence, as far as their own simpler, more uncomplicated affairs are concerned. What, then, would be the condition of things if the newly-imported immigrant came, as a rule, not from monarchical communities, but from republican states with institutions, rules, habits like our own? Can any one think of a legislator who would, for an average immigration of *that* kind, consider an apprenticeship of five years necessary? On the contrary, we can safely say that when in future the monarchies of Europe shall have been swept away before republicanism conquering the world; when France shall have the fact and not only the name of a republic; when Germany shall have adopted a self-government worthy of the character of its people and the high standard of its thinkers; when old England, whose very sap and juice are drying up over the old outworn roots of its existence—meaningless and powerless as it is nowadays in the councils and destinies of nations—shall have been rejuvenated to its original Anglo-Saxon freshness and vigor by republicanism; when, in fact, all Europe shall have stepped over the boundaries between monarchism and republicanism, bondage and freedom, dynastic sway and enlightened self-government—there will be no apprenticeship any more than there is between the States of this one and indivisible Republic of the United States. Such is the influence of equal education, habits, aims, and interests. And such is the cause and source of the universal citizenship among the members of our liberal profession, from whatever geographical country they may have arrived. The first minute of your acquaintance with a medical man who is born and raised your antipode reveals in him a relative, a brother. The same ideas, even the same terminology, render your intercourse with him like that of an old friend. For we are so fortunate as to live in a time

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when medical science has the same base and foundation, that of Nature and its study.

It has not always been so, nor could it be so, as long as, or wherever, the standard of science and society was generally low. It is a peculiarly instructive fact that these two will closely correspond with each other. The science and art of old Egypt have no greater accomplishments to boast of than hieroglyphs and pyramids, and her physicians were the priests of Isis. The Greeks, however, whose art, resulting from their enjoyment and close observation of Nature, was, in many instances, equal or even superior to our own, produced a Hippocrates, one of the greatest and truest observers of all times. Among the Jews, whose one science was the combination and union of politics, religion, dietetics, and medicine, the practice of the healing art was exclusively in the hands of priests and legislators. The Romans sometimes borrowed the culture of their neighbors, and some of their medical men were Greek; usually, however, they destroyed it. Their path was marked by the sword, and the blessing they carried along was slavery. Accordingly most of their physicians were slaves, and Justinian fixed the price at which their persons could be bought. The Christian middle ages—which knew no higher scientific authorities than Aristotle, and Galen or his Arabian translators or transcribers, and have not succeeded in producing a single original mind in medicine before the times of Paracelsus—relied on the healing powers of their priests and, by way of contrast, of despised Jews. The Indian's medical man is his sorcerer; for the red man believes in miracles, in supernatural or rather unnatural powers, just as much as the illiterate and credulous white man who follows the footsteps of the clairvoyant, the medium, the quack.

In this manner every age and every country had its own medical science. It required the results of centuries, struggling for light, to yield a common base; that base being the increased knowledge of Nature. But more than some descriptive knowledge of natural bodies or phenomena was required. A universal medicine has been, at last, the result of the genetic idea and researches, the idea that

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there is nothing unalterable and unchangeable in Nature; that everything is incipient, growing, and disintegrating; that the same process which had been noticed in nations, in the course of centuries, is taking place in every being from minute to minute. The researches in chemistry, showing rapid or slow transformations, in comparative anatomy pointing out small and trifling differences, have been the first to sharpen the senses and to prepare the way for modern medical ideas. To France belong the first great names of Lavoisier, Laplace, Bichat, Dupuytren, Laennec; to Germany, the glory of establishing medicine on its solid modern foundation. To the world belongs the credit of fully appreciating and recognizing the working of the mind and the progress of development, never minding the language or nationality of the man who has a claim of priority. Thus, the men whose names I have mentioned, and the names of Oke, Schwann, Johannes Müller, Rokitansky, Schönlein, Virchow, Hunter, Davy, Faraday, Darwin, are no longer national names, any more than in other fields the names of Galileo, Copernicus, Newton, or Raphael Santi and Correggio, or Beethoven and Mozart. These men speak the language of the human mind; they are the leading citizens of the universal world-republic of science to which we all, equal, free, and fraternal, have sworn allegiance. There is no blockade, no fire, no Franco-German war, that will ever disprove our belonging to the same community. The progress of one man of one country, is at the present day the common property of all men, all countries, and an isolated civilization or science belongs to the past. Let us hope, and every one at his own wheelwork, that the unity of science may be but the precursor of the unity of mankind.

With this view American physicians have always received their foreign brethren friendly and hospitably, no matter whether they had come to settle or to visit. With this view I welcome to our Society those who have lately joined us. Besides, the fact of their coming to us proves their agreeing with the sentiments I have briefly expressed. There is many a common battle we shall have to join in.

Among our new acquisitions I notice also a large number

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of younger members of the profession, some of whom have already drawn the attention of the medical public to their labors and earned golden opinions. I cannot but express my satisfaction at their accession to our numbers. If there is a physiological difference between them and the older members, it consists in the relation of the new-formed young cells entering the organism, the framework of which is established before. The latter gives the necessary firmness, is less changeable, but, it is true, less necessary for the performance of the physiological functions. The former are the active and enlivening portion of the organism. It is the young blood cells, the young gland cells, the organism is supported by; their healthy action is the condition of healthy and active life; without them the organs and the organism would soon die of atrophy. I hope our young cells will not carry this comparison any further. They might feel like saying that the old blood corpuscles cannot do better than to get disintegrated, as speedily as possible and disappear from the field of action, or that long-organized connective tissue is but a scar and inert, or that the old pavement epithelia of the epidermis, with their shrunken nuclei, ought to be rubbed off at once and buried in the bathtub. They may be right sometimes. But the old-established framework might have a line of defence: it might retort that young cells might overdo their physiological function; that it might happen that over-copious proliferation will break down the whole organ, young and old, or that the too copious and irregular invasion might prove a malignant growth. We shall easily get along, though, and all of us, old and young, perform our share of the work, by contributing our best to the general stock of knowledge. At all events, our younger brethren, or part of them, are conversant with those methods of study and investigation which have elevated modern medicine to its present standard. Therefore the Society hopes for and requests such contributions to the papers and discussions of our meetings as will prove their efficiency and fill our wants. These gentlemen will surely not forget that every one has to do his best where our aims are the same, and that by so doing they work

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for the future, which ought to be, and necessarily is, theirs.

While pointing to these wants and stating my earnest request for a diligent and faithful co-operation of such of our members as are accustomed to the exact methods of investigation with the microscope or chemistry, I still think that the papers read and discussed before this Society during the last twelvemonth are of a high order and creditable to both their authors and our Society. Allow me to recall the following items:

November Meeting, 1870.—Paper by the President on "Craniotomies," and general introductory remarks. Cases of, and remarks on, "Blepharoplasty," by Dr. Knapp.

December Meeting.—Paper by Dr. Fordyce Barker on "Blood-letting as a Therapeutic Resource in Obstetric Medicine."

January Meeting, 1871.—Paper by Dr. H. Knapp on "Formation of Bone in the Eye."

February Meeting.—Paper by the Vice-President, Dr. Austin Flint, on "The Pathological Relations of the Gastric and Intestinal Tubules."

March Meeting.—Paper by Dr. J. Lewis Smith on "Scrofula."

April Meeting.—Paper by Dr. Leonard Weber on "Abscess of the Appendix Vermiformis."

May Meeting.—Paper by Dr. H. B. Sands "On the Use of the Plaster-of-Paris Bandage in the Treatment of Simple Fracture, especially Fracture of the Femur." "Case of Abscess of the Appendix Vermiformis," by Ernst Krackowizer.

June Meeting.—Paper by Dr. F. N. Otis on "Sylphilitis Infection, with Special Reference to the Channels through which the system becomes contaminated, and to the so-called Incubation Period of the Disease."

September Meeting.—Nomination of Officers.

Concerning our recent admissions I have another remark to offer.

It is not a small satisfaction to me that in this year of my presidency one of the most urgent questions of the day should have been quietly and noiselessly answered. The admissions of females into the ranks of the medical profession—or, rather (as their obtaining the degree of M. D. is a matter belonging to chartering Legislatures,

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and their obtaining a practice depends on the choice or prejudice of the public), into the existing medical societies—has been decided by you by a simple vote, not attended by either the hisses and clamors of excited young men in medical schools, or the confusion and derogations of the meetings of a medical association. I think we can say that our action has finally settled a question the importance of which was recognized by everybody. The vote of the largest society of the kind in the Empire State and, I believe, in the Union, will have the effect of soothing the passions and levelling prejudices in the circles of the army of medical men, forty thousand strong, in the United States, and of raising us in this respect to the standard of European countries. Even the conservative seat of learning, Edinburgh, has admitted women to medical studies. Paris has turned out a woman doctor of medicine, who will prove, I hope, none of the least ornaments of this Society, the profession of this city, and our common country. Russia can boast already of her Kaschewarowa, and will within two years permit any well-educated and sufficiently-prepared woman to enter the halls of medical learning; and Switzerland, little but republican Switzerland, enjoys in its University of Zurich the presence of dozens of female medical students. I say “enjoys,” for it has been a matter of public congratulation on the part of the professors of that institution that, since the admission of women, not only has the university gained a number of hard-working and successful students, but that, besides, the general bearing of the students of the stronger sex has been more quiet, sedate, moral, and studious.

The question whether women shall be admitted to the study of medicine in the existing medical schools in our country, will be solved in time. It appears improbable, for several reasons, for the present. The standard of many of the young men entering upon the study of medicine, as far as preparatory studies are concerned, is so little elevated that the schools will not lack sufficient numbers of students: for it is true that ours is one of the liberal professions in the Union which do not consider the pre-

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vicious acquisition of a classical or literary education a *conditio sine qua non*. And further, as long as new institutions, worthy and unworthy ones, male and female, are daily chartered upon the recommendation of lay members of State Legislatures, the increase in number of special colleges for females can be continued *ad infinitum*. Thus it may happen that, for some time to come, this question of admitting females to our medical schools for male students will not be very eagerly ventilated, as its practical necessity may, to many of us, not be very obvious. Still, let it not be forgotten in the history of this Medical Society of the County of New York that we have opened our doors to worthy members of the medical profession, male or female, white or colored, and thus granted reality to the gospel of American citizenship, the Declaration of Independence, according to which we are all free and equal. Let it not be forgotten, either, that we, in our circle, have generalized and idealized the peculiarly American proverb, "Help yourself." Emancipation, both of color and sex, means nothing else but to universalize the postulation of helping one's self. The future constitution of an ideal human society will be such that every member will take such a place, fill such a position, as is both adapted to his or her taste, and adequate to his faculties and services. The choice of a calling will depend on the first, the recognition by society, position, on the latter. That is the meaning of "help yourself," which never excludes that everybody else should also help himself, nor renders the helping each other impossible. On the contrary, the very existence of human society in general, and this Republic in particular, is based on the liberty and independence of one and all. Monarchs and oligarchs only claim liberty and self-destination for their sole persons and systems. I wish we, in our political and social system, and in the institutions of our private and scientific circles, might forever bear in mind that we have always been the banner bearers of universal liberty; and that, if the public opinion of Europe, greatly influenced by a monarchical and anti-republican press and office holders, has frequently thrown the "help yourself" into our faces

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as a reproof, we mean and meant to help ourselves and each other, and them also! We need not sacrifice truth and modesty to spread-eagleism when we point to the facts of our Sanitary Commission, our Chicago, or to the hungry of their Ireland, or the wounded and starving of their Germany and France. And, from this general mode of viewing all questions of great importance concerning the requirements of progressive development, we have, all of us, co-operated in solving the woman question in our department, no matter whether we have all been equally enthusiastic in deciding it, or whether we have simply followed the dictates of our longing for justice or equity, or resolved upon giving every member of human society a chance to develop his or her faculties, on their own responsibility as to failure or success.

After all I have said, I think I am justified in asserting that we have progressed in the right direction, in the acknowledgment of equal rights and universal solidarity, in a truly republican spirit. Besides, there is one progress we have made which is too evident to be overlooked. We have done our share, we believe, in teaching each other by papers and discussions. We have commenced, besides, to stimulate scientific researches. Hitherto, we must confess, the sun of science had risen for us and mankind in the far East, in Europe. She has the advantage of longer centuries, stored-up knowledge, hundreds of seats of learning which are not schools in which a special branch of science and art is taught, but universities of science. She has her large museums, libraries, and collections. She has, what is more important than anything else, a general basis of thorough elementary and either literary or classical education previous to a special course of professional training. She has the advantage of the habit of study and thinking. In Europe, the universities, as they have the office of finishing the sixteen or twenty years' school education, have also that of advancing science *per se*. The great works of literature, general and special, the classical results of combined observation, learning, and thinking, have made their appearance from the laboratories, the cliniques, the libraries of European universities.

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The solutions of many grave questions we owe to the prizes established, judged, and crowned by them. If we compare the four hundred pages of the "Report on Education, by John W. Hoyt, U. S. Commissioner," as contained in the sixth volume (1870) of the "Report of the U. S. Commissioners to the Paris Universal Exposition, 1867, published under direction of the Secretary of State, by authority of the Senate of the United States, edited by William P. Blake, Commissioner of the State of California," we shall admit the fact that we have good schools, but no European universities. Especially the task of advancing medical science, of stimulating strictly scientific researches, which our medical schools cannot fulfil, must with us necessarily fall upon the medical societies. Now, from this point of view, our Society, in my opinion, has, by approving of and authorizing a prize on a strictly scientific subject, which will require researches of a laborious and partially novel kind, begun a new era in the efficiency of medical societies, and proved her earnest appreciation of her position in relation to medical science.

Thus we have commenced to work according to the duties of every medical society, and the profession in general, in a number of important directions. There are, in fact, but three views which can be taken of the work, the actions, the duties of the medical profession—but three different relations.

The first two I have cursorily spoken of. They are the relations to the members of the profession itself, that is, to themselves or each other, and to science. A thorough review was not expected this evening, nor was it in my plan to dilate on them. The third highly important question, that of our relation to the public and to the political community, I expect to discuss this evening. I meant to discuss our responsibility to the public, and in connection with that the raising of the standing of the average practitioner, in the interest both of the profession and the public.

The relation of medical science to almost every branch of civilized life is self-evident. I do not speak of the care of individual disease; its importance as a duty of the

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medical man is understood by the lowest degree of intellect. I do speak of the whole province of hygiene and social science. Protection against epidemics, supervision of the sale of medicines, medical and in part also physical care of the poor (sick or well), coroners' department, supervision of dead-houses, public and private institutions for the sick, orphan asylums and foundling houses, the condition of cemeteries, measures against syphilis, sanitary inspection of schools with regulation of hours, subjects of teaching, condition of school benches, supervision of factories, of prisons, are duties which form the natural province of a well-informed medical profession. I go further. Part of the humane jurisdiction of the future will form a portion of the domain of the philosophical physician of the future, which will not leave the plea and the proof of insanity, or total or partial responsibility of the accused, in the hands of a shrewd or blustering solicitor, or to the discriminating minds of twelve men whose only claim to sit as jurors sometimes consists in that they could find no excuse for staying away. I also meant to discuss the difference between a trade and a liberal profession, and the relation of both to the public and the political community. Also, how it happens that, when a man is out of coats, he goes to a tailor; out of shoes, to a shoemaker; when his watch is broken, to the man who knows something about watches; when he is out of health, to a seller of nostrums, to a clairvoyant, a medium, a grandmother, a neighbor. How it happens that, when his horse is sick, he will send for the horse doctor; when his child is sick, for the priest, the schoolmadam, the auntie, or Mrs. Soothing Syrup. How it comes that, when a portion of his money is at stake, he goes to a lawyer whom he knows to be informed about the laws of the land; when his health is failing, to somebody who knows anything but the laws of his body. How it is that there are laws against coining false moneys, coining checks, coining false pretences to obtain money, laws protecting your pockets, but no laws protecting the health and life of the community, of the very people who make the laws of the land; how it is that this criminal carelessness and

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ignorance on the part of the public and the lawgivers have contributed to demoralize even the ranks of a liberal profession and to impede their progress; how that this profession, usually upbraided, made light of, neglected, has always taken the initiatory steps to protect the health and lives of the public, almost against its wishes and remonstrances, enforced the laws of hygiene, diminished mortality, lengthened the average duration of life, and improved the means of protecting the community, when their services were thought by it as superfluous as they were life-saving. I also meant to speak of the mode in which, in my opinion, the constant cry among our own ranks for elevation of our profession, in the interest of the public, could be satisfied. I am sorry I have to simply announce this subject of medical education and practical reform for some other occasion, as I have felt compelled to lay a subject before you which appeared to me so urgent that I could not but present it at once. It is of such particular urgency because of immediate practical importance; and at the same time has claims to the attention and study and co-operation of every physician.

A few mornings ago I learned through my newspaper of the opening of a new lying-in asylum and foundling hospital. The number of such institutions begins to swell; the interest of the public is aroused, money is freely forwarded, and the lay and professional members of the public are thoroughly aware of the necessity of saving infant lives. I shall not here discuss the questions whether an effort should be made to save abandoned children, or whether the effort to save abandoned children will encourage crime. I shall simply try this evening to contribute my share to answering a third question, of an "appeal in behalf of the New York Infant Asylum," which met my eye but a few days ago—the question, Can these children be saved? I shall also partially answer the question, What has been done for them in New York City? How many have been saved? If many, why change the old plans? If few, why not make a radical change?

I cannot answer the question to my entire satisfaction;

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for, to do so, the most exact and positive statistics on all institutions would be required. Now, part of the necessary information is found in the general literature on the subject. Part of the statistics concerning New York, however, I published some time ago, but have not taken particular pains to give them a wide notoriety. Still, some medical journals have republished part of my statements. The subject, however, is too important to be dealt with in a superficial or supercilious manner. Therefore I shall give to-night what I have, and for what it is worth.

About a year and a half ago I read to the Medical Board of the Infant Hospital, Randall's Island, a report on "The Raising and Education of Abandoned Children in Europe, with Statistics and General Remarks on the Subject." It was printed in the minutes of the Commissioners of Public Charities and Correction. A few hundred copies, which they liberally placed at my disposal, I distributed among the medical journals of the country, such persons as I knew to take an interest in, or have a connection with, foundling or infant institutions, and a number of medical gentlemen. I now believe it was a false professional pride that induced me to withhold my essay from the secular papers and the public on the ground that it was but a report to my colleagues of the Medical Board of the Infant Hospital, and because I was, perhaps, too deeply impressed with, or wrongly influenced by, the rules laid down in the best-intended but in some respects rather naïve and unpractical lawbook, the "Code of Ethics." I now believe that the public and the papers had a claim to possess that report, and that, if its contents had been thoroughly ventilated in the press, public opinion might have been before this corrected to a certain degree in regard to the best means of raising abandoned infants. For I had enjoyed unusual facilities. Not only had I several months to spend on collecting the necessary material during the summer of 1869, but the authorities, both public and professional, of England, France, Germany, and Austria aided me in my endeavors, and a great many otherwise inaccessible, never-printed statistics have been copied by or for me; not to speak of a manuscript

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volume on the foundlings of Bohemia, handed over to me by one of the best authorities on that subject, Prof. Ritter von Rittershain, of Prague. My mistake in not giving the report the publicity it ought to have had was, however, in part corrected by some medical journals, in part by a paper read before the Social Science Association in Philadelphia by Dr. Parry, who has deservedly earned the thanks of the public for his dealing with a number of questions, both social and physical, of the foundling problem, in accordance with the statistics and results of my little book, to the extracts of which he adds valuable information on the city of Philadelphia. Thus I cannot complain of my work having been in vain; still the most important question appears not to be as yet answered sufficiently to the satisfaction of the public at large. This question is, Ought children, or rather, ought infants, to be raised in public institutions or in private families? In the city or in the country? By wet-nursing or artificial food. Of this latter I shall not speak, because in theory everybody agrees, if it were only on philosophical or religious principles, that babies ought to be reared on breast milk.

Thus the question is practically reduced to this: Is it desirable to collect infants in an institution, combined or not with a lying-in establishment, there to raise them? Is it preferable to farm them out to private parties? Is it preferable to take the intermediate road and divide their numbers up in a number of country cottages?

The first plan, to gather and raise infants in a public institution in a large city, commends itself at first sight. There is a large, commodious building, facility of getting the necessary help, kind-hearted superintendence, the proximity of city comforts and medical attendance; there is a large number of people whom you expect to call upon for generous contributions. The idea suggests itself, also, that a lying-in establishment ought to be combined with every such institution destined to receive foundlings; for the saving must be immense when the baby is taken care of, before his birth, by the same kind hands that are to fondle him afterward. Let us, however, do away with

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this plan at once. Every medical man knows it to be a fact that a lying-in asylum will generate disease more than any other hospital, and infect the babies. Every man with hospital experience has observed it, and every general practitioner has met with puerperal diseases in women and severe affections in the newborn at the same time or in the same houses. It is not long since Lorain published a volume on the "Puerperal Fever of Women and Infants." I have myself noticed the fact that when, in a public institution of which I shall have to speak, erysipelas appeared among the children, one of the houses, which was by far inferior to the other from a sanitary point of view, was entirely free from the disease, while the better house was infected with erysipelas among the children, only because part of it was used as a lying-in establishment. I wish those gentlemen and ladies who think of new institutions of the kind would consult the physicians with whom they have the good luck to be connected, and with whose recommendations they are always eager to go before the public. I also wish the medical gentlemen would offer their knowledge, their opinion, their judgment, although not asked for, for the benefit of their friends who work, to the best of their knowledge, on the impulses of their hearts. These friends of theirs cannot, however, ask for advice about special questions, as they know nothing about them. It is impossible to ask questions without a certain knowledge. This knowledge about the absolute danger of combining large lying-in hospitals with foundling or child's institutions they have not. Therefore I urge upon the medical gentlemen to warn their friends and the public against a step attended with positive danger to the infants whom they mean to benefit. The question and its answer is such an old one, and has been answered so often and so uniformly, that it ought no longer to be necessary either to put or answer it. Even where there are large foundling institutions and lying-in establishments in the same city in Europe, they are no longer found under the same roof. In this particular department of raising babies it appears as if the arts of printing and steam-shipping had never been invented. The

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experience of all Europe, so dearly bought, so bitterly complained of, goes for naught here. We mean to make our own sacrifices, have our own victims, mourn our own losses, do as badly as any bygone century, because we do not take the trouble of profiting by the experience of the Old World. A lady at the head of a large new institution of this kind in this city has told me herself that she knew nothing about the results of the different modes of raising babies in Europe. Let, then, the medical men in good standing, large practice, and social connections, who may be asked for advice, or whose information will be thankfully received by the generous planners of new institutions, protest against the combination of lying-in and foundling hospitals. By so doing they will counteract the empiricism which in so many instances has been the curse of our political and social institutions.

Next in order is the question whether babies ought to be raised in the country or the city.

One reason why infants should be raised in the country, even under equal circumstances, is the statistical fact that they will thrive better. Of one hundred children born alive there died before the fifth year:

	Years.	In the cities.	In the country.	Difference.
France.....	1853-54	35.69	28.56	7.13
Holland	1850-54	36.25	28.90	7.35
Sweden.....	1851-55	38.86	24.50	14.36
Denmark	1850-54	29.66	22.68	6.98
Sleswig.....	1845-54	27.42	23.42	4.00
Holstein.....	1845-54	29.92	25.29	4.63
Saxony	1847-49	39.88	36.22	3.66
Hanover.....	1854-55	28.70	26.47	2.23
Prussia	1849	36.02	29.47	6.55
Average		33.60	27.28	6.32

Of one hundred deaths, of all ages, in England, there were:

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	Up to the end of the second year.	Up to the end of the tenth year.
In all England	31.58	44.91
Cities with 100,000 inhabitants or more	35.12	51.39
Cities with less than 20,000.....	31.49	46.79
Manufacturing country districts	35.36	45.90
Agricultural districts	24.33	35.40

M. Husson urges even the shortening of the preliminary stay of the foundlings at the central depot, although a number of wet-nurses are kept there, and wants them transferred to the country instantly.

Last in order, not least, is the question where foundlings ought to be raised—in institutions or in private families.

Places inhabited by many can never yield an atmosphere as fit for breathing as well-kept private residences. Moreover, young infants, in consequence of their delicate constitution and their not producing vital warmth by physical exercise, are confined to the house and room during the greater part of the year and day. Besides, offensive admixtures to the atmosphere of rooms in which many children are living cannot be avoided. Even the institutions in which adults are kept suffer from the same influences, to such an extent that not infrequently the very entrance into such a place is a guarantee of imminent disease, and portions of hospitals have sometimes to be closed. Alvine discharges and urine contaminate the air of infants' wards to a considerable degree. From this source originate the numerous cases of poor sanguification, and of constitutional diseases, such as rickets, scrofula, etc., even typhoid fever and scurvy; from this source comes part of the really immense mortality of foundling hospitals. Whenever the attempt is made to correct this cause of disease and death, you will find that this attempt is punished at once. Ventilation is never complete except by opening windows. To relieve the wards of their unbearable stench—I advise you to visit a large, fine-looking, whitewashed, clean ward in a foundling hospital, in a Nursery and Child's Hospital,

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at 6 A.M.—you open the window, and in come the enemies of mucous membranes: intestinal catarrh, enterocolitis, bronchial catarrh, pneumonia. Of eighty-eight deaths in the Nursery and Child's Hospital which I shall specify to you, more than forty are due exclusively or partially to pneumonia. These facts have been the causes of the universal changes in the rearing of infants left on the hands of society in all Europe. At present the former foundling institutions are nothing but depots for temporary admission and speedy distribution about the country.

There may be drawbacks also, as far as private boarding is concerned. But where, in such an individual case, or a number of individual cases, changes are required, they are easier to make than in institutions which, as a rule, are more than comfortably filled.

Even if the feeding be the same in private boarding and public institutions, the results are more favorable in the former category. That a baby should live and thrive on artificial food in a private family is by no means a rare occurrence. Every attentive person, every medical man, has ample opportunities for such observations. That, however, bottle-fed babies in a public institution should survive is a rare exception. In the wards of infants' hospitals everywhere the receiving of a baby in the purely bottle-fed department is acknowledged by all as amounting to a sentence of slow death. Moreover, the only article of food without which a baby could not be kept alive—viz., milk—can be more readily and more regularly procured by the poorest countrywoman than by the richest and most circumspect institution in a large city.

Besides, the nurses of institutions having charge of a number of infants at once, by day and by night, are very apt to, and surely will, lose the self-sacrificing patience and the everlasting attention which are absolute requisites for the sustenance of a young human being.

A task that requires all the holy instincts, the self-immolating, restless care of maternal love, is left sometimes in the hands of corrupt, lazy, whimsical, or malicious women, who make it their business to neglect their business, and are womanly and motherly only as far as they

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are so anatomically. It is much more probable that the poorest countrywoman who takes charge of a society's child, under the superintendence of the proper authority, under the eyes of her neighbors, and with motherly feelings developed in the poorest one bound in marriage and family ties, will succeed in saving a nursling from certain death.

I have spoken of superintendence. It is necessary and must be close. Of the infants sent out by the "general office of nurse children" under M. Husson, at Paris, and closely watched, the mortality under a year is seventeen per cent.—viz., but one per cent. more than the average mortality of the same age in all France.

Those placed out on the same conditions by private offices, and not watched, yield a mortality of forty-two per cent.

Human nature is the same everywhere. The general results of not watching the parties to whom children are confided must be feared, if not expected. We could learn from the ladies of Berlin, Germany, how the united efforts of the public, especially of the ladies, can be made useful under the directing control of the official authorities.

The latter I prefer as a directing power. Society itself, the State, must be considered reponsible for the life of every human being that can be saved. It is a duty, not good-will. It is good policy, as I have proved in my report, to practice charity. Human society has committed both a blunder and a crime when a member that could be saved, physically, suffers death; when a member whose soul and heart might have been kept pure, will sin.¹ How

¹ Of the whole population of the countries of Europe, according to Wappaeus, 33.66 per cent. are below fifteen years of age. Thus one-third of the living are consumers only, while they produce nothing at all. Between fifteen and twenty years, when most individuals are still unproductive, very many still preparing for their vocation or trade, are 9.72 per cent. Only 48.88 per cent. are between twenty and sixty years, the period of activity and work. Between sixty and seventy years, a period of life which is almost unproductive, are 4.92 per cent; and beyond that age, where unproductiveness is the rule, there are

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is it with us in many instances? A party of ladies or gentlemen favor the idea of founding an institution. They ask for contributions. Sometimes they will contribute themselves, although they might not expect to read their names in the newspapers with the amounts attached. They erect large buildings which they cannot pay for, or receive patients whom they have no sufficient means to support. Then, instead of paying from their own pockets, as they have followed their own hearts and imaginations, they ask for further contributions; they make people embroider, knit, and sew, and buy their own work; they make the public buy musical entertainments, for which nobody pays—ay, they make them dance. If all that is insufficient, the common enemy is attached; the common enemy is the treasury, the people's money, given away less by ignorant or injudicious legislators than by unscrupulous lobbyists. Thus you will find, in the financial report of the "Seven-

2.81 per cent. of the whole population. At all events, nearly one-half of the population are consumers only, before they are able to repay society for the sacrifices the community has to bring in order to raise them and render them productive. Thus a sound political economy requires the continuation of life until and beyond the period of full and unfettered productivity. Whatever life is thrown away before, is just as much capital thrown away. Therefore social, moral, and political economy insist upon the protection of the lives of the newborn and young infant. Humanity requires it, and common prudence commands the saving of a product after it has been called into existence and has given rise to a waste of working power. Political economy need not to be told that a mother who carries a child does less work than in normal circumstances. To waste the product after it has given rise to expense, which is equal to non-production, is a direct injury to national wealth and power. Every new invention in medicine and surgery—the forceps, vaccination, chloroform—has been a means of increasing the national wealth by saving life.

But this is not the only consideration of importance. The lost life is a dead loss, but the raising of unhealthy children, or vicious ones, amounts to a constant injury to society, a perpetual malignant disease eating the marrow of the land. If, therefore, any means be resorted to to save the lives of, and

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teenth Annual Report of the Nursery and Child's Hospital in the City of New York, Fifty-first street, corner of Lexington avenue, March 1st, 1871," the statement that of \$45,000 spent in one year (rent not included), the house inmates paid about \$12,000, the treasuries of the State and other authorities \$4,000, and that private subscriptions and donations amounted to little more than \$1,700. The balance was made up by the receipts of the great Charity Ball.

If, on further consideration, you discover that, *besides* subscriptions, donations, payments of inmates, and proceeds of Charity Ball, the treasuries of the people of the State of New York pay alone 30 per cent. more than the rate of sustaining the infants under the charge of the Commissioners of Charities and Correction, you will, I

providing an education for, the abandoned or orphan children, they ought to be sufficient, and amply so. If this duty be neglected, the punishment falling upon a community in particular, society in general, is but just. Neglect of either physical welfare or moral and mental education is equally dangerous.

Insufficient physical development, depending upon incompetent nursing, scanty or injudicious feeding, results in the raising of a class of persons whose presence in society is a dead weight and an eating cancer. Feeble men, crippled women, raised by insufficient measures for the bringing-up of children, will require renewed efforts for their support on the part of society as long as they live. Thus capital is wasted on their being born, nursed and supported. If they had never been conceived and born it would have been better for society. As they exist, they have a claim on humanity. When they have facilities to work, society has a claim on them, and will thrive through them; not otherwise. Thus raising the poor into healthy and robust persons is a direct gain.

If the moral and mental education of the same class of individuals is neglected, there is more than a mere probability of demoralization being the result. Public order is destroyed by such a population, and public means squandered. Means that were saved in the raising and educating of the babies will be required tenfold to sustain houses of correction and State prisons. In 1852 there were in the bagnios of France

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hope, agree with me in my conclusion that the State, that society, can work at a cheaper rate, and on a more uniform plan, than the dozens of self-constituted authorities. Altogether, you will find that the total cost of sustaining the infants of the Nursery and Child's Hospital amounts to more than double the expense of the Commissioners for the same purpose. I wish I could say that their successes were double as to general care, good food, clean wards, and mortality. Unfortunately, the high standards of food, wards, and mortality are undeniable.

Now, in my opinion, if the expenses are to be borne by the State, the State ought to have the credit, for it has the moral responsibility toward the indigent and helpless; and

5,758 persons. Of these, 391 had been illegitimate children and 146 foundlings. In the State prisons, of 18,205 inmates, 880 illegitimate and 361 foundlings. And the same proportion holds good for all houses of correction. Of 1,300 Frenchmen, one was the subject of legal punishment, and among former foundlings one of 158. Thus, of the foundlings of France, eight times as many get punished by law as the average population.

Thus it appears that the most economical policy consists in raising and educating infants and children into physically and mentally healthy men and women. Money spent on them is easily saved in hospitals and prisons. There is but one excuse for a community for neglecting the obvious duties toward the children and itself—viz., extreme poverty. Therefore, where a special community has but deficient means, the whole people, society in general, ought to hold themselves responsible. Society in general is benefited either by or suffering from its constituent parts, and therefore, the care of the individual is a matter of common concern. If there is any meaning in the principle of general solidarity, it includes the right of every individual to a healthy body and a sound education. The equality preached by early Christianity and the doctrines of modern social science agree perfectly on that point, and the shrewdness of political economists has arrived at the same conclusion.—*The Raising and Education of Abandoned Children in Europe, with Statistics and General Remarks on that Subject, by Abraham Jacobi, M. D., Member of the Medical Boards of the Infant Hospital, Randall's Island, and of the Nursery and Child's Hospital, New York, 1870.*

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the tax-paying public, who seldom learn what is being done with their money or to what extent it will be given away. I remind you of the fact that the Legislature of last year decreed away nearly a million as their contribution to private or even sectarian institutions. I know even of instances where large sums of money, people's money, were spent for purposes altogether different from what they were asked and given for. Let me, however, return to another special subject of this paper.

The subject, when brought before an intelligent and knowing public, is so plain that it commands attention at once as one of the most urgent questions of the day. Therefore the Medical Society of the State of New York passed, in its second meeting in February, 1871, the following resolutions:

Whereas, Humanity acknowledges the claims of every human being to life and to some degree of prosperity and recognizes in every civilized country the right of every newborn to be protected and supported; and

Whereas, Political economy requires the saving of a being which has given rise to outlay until and after it can become useful and repay the expenses incurred in its full development; and

Whereas, The moral constitution of society requires that every member of society should obtain a sufficient training of its intellectual and moral powers; and

Whereas, The mortality of infants, being large from natural causes, is three times larger in public institutions destined for the maintaining of infants than in the general infant population; and

Whereas, The Board of Commissioners of Charities and Correction, always willing to be guided by competent advice, and desirous of doing their best, have already had a report prepared for them, suggesting changes and improvements in the raising of their infants :

Therefore, be it *Resolved* by the State Medical Society to appoint a committee to investigate and report, in the meeting of 1872, upon the following subjects :

1. The causes of the fearful mortality of abandoned infants in general, and those in large public institutions in particular.

2. The reasons for the giving-up of large institutions, and

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the success of the dispersing system for abandoned infants, in every country of Europe, where the preservation of lives was an object.

3. The causes of the unusually large infant mortality in the institutions in charge of either public or self-constituted authorities in New York City and State.

4. The plans and means for improving the condition of foundlings and abandoned children in New York City and State:

- a. During their infancy, when they are most subject to disease and death.
- b. During childhood and adolescence, when they require an education sufficient to make them useful members, and prevent them from becoming enemies of and dangerous to society.

As I am a member of the chosen committee, I have herewith offered a small contribution to the elucidation of the subject, and offer another one in studying the statistics of one of our great institutions which has been founded and supported for the alleged purpose of saving life. I select the Nursery and Child's Hospital, for the very simple reason that I know as much about it as about any other; in fact, my knowledge of the minutiae of that institution you will find tolerably complete. I consider the statistics I lay to-night before you as but preliminary to, and part of, my future report to the State Medical Society. By them I mean to prove the absolute impossibility of raising infants in a large institution, a fact that has been ever so many times proved in Europe. The first communication I have to make I beg permission to recapitulate from my report on "*The Raising and Education of Abandoned Children in Europe*," etc.

The *Nursery and Child's Hospital*, New York, under the management of thirty-five estimable ladies of the city, in which the infants are fed half on breast milk, half on well-selected artificial food, a mixture so frequently and advantageously used in private families, exhibits in the records of 1870 the following facts. I take the liberty of adding at once that I make use of limited statistics only, because up to March, 1870, the records have not been well

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kept. Since that period they have been kept regularly, as I, being one of the medical staff of the institution, know from personal experience. There have been, from March 2d to May 31st, 97 admissions, 20 discharges, 10 deaths.

The admitted nurslings were by no means newborn; in fact, very few belong to that category. Eighty of these admitted children had a total age of 367 months, averaging 4.5 months for each child at the date of admission. Seventeen of the admitted children were two years and over, up to ten; altogether there is a total number of 84 years for 17 children over two years—that is, an average age of five years. Of these 17, being of an age where the rates of mortality are always low, none died. Thus we have 10 deaths in 80 infants with an average age of 4.5 months at the date of admission, within a single quarter of a year. Further, of these 80 infants (from two days to two years old) admitted during these 900 days, 20 were discharged. The shortest stay was 1 day, the longest 68 days. The total days of these infants in the institution was 324 days for 20 inmates—that is, discharges took place, or were taken, in 20 cases out of 80, after an average stay of 16.2 days in the Nursery. Thus there are 10 deaths in 60 children of an average age of 4.5 months at the date of admission, within the three months following their admission. The average age is a little higher because most of the infants who were discharged were very young and have been counted in the grand total of ages. Now, if we grant that March and one-half of April are unfavorable months, we have to admit that May is favorable to health, that the winter months from December to February are just as untoward as March, and that the heated term of the summer is surely still more dangerous. Thus we may safely assume that the rate of the general yearly mortality in the Nursery is certainly about the same as in the mentioned quarter of March, April, and May; therefore the mortality through the year would amount to 40 out of the number of 60; or, if we mean to count the infants that got their discharges after 16 days' stay in the institution, out of 80 children who were admitted at an average age of 4.5 months. I prefer this latter figure for the following rea-

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sons of both justice and charity: The 50 children remaining, having grown a quarter of a year older meanwhile, would, in the second, third, and fourth quarters, exhibit a smaller rate of mortality, while those newly admitted would yield the very same mortality we figured above. Thus we can afford to count those 20 discharged ones with the rest. If in future the records are kept as fairly as in the last few months, we shall have facts instead of estimates.

Now, then, there are 10 deaths quarterly in 80 children, each one four to five months old at the date of admission. Grand total of 50 per cent. deaths yearly of children of four to five months and upwards to two years.

Statistics prove that the mortality of the infants born alive, from the date of birth to the fifth month, is larger than that of infants between that age and two years. Of 3 infants who died before the termination of their first year, two are less than five months old, and one is between five and twelve; and of 31 who died before the end of their second year, 26 have not reached the end of the first, and but 5 die between their first and second years. Thus, of the above 50 per cent., 8 would belong to the second year, 42 to the first. They were admitted at a time of life when mortality is but half of what it is in the first months. Thus it appears that the mortality of the Nursery, if all the admitted infants were newborn instead of being four to five months old, would be so appalling that I am glad I am not required to state its exact figures. The worst figures of the European foundling hells of former centuries are not more fearful than ours, and, although being an officer of that institution myself, and believing that I and all the rest of us have conscientiously tried to do our duty, I cannot but testify and bow down to the truth that in spite of all the efforts of the medical staff and the painstaking and kind-hearted ladies, the probability of the lives of children entrusted to a public institution is very slim indeed. The younger the children, and the larger the institution, the surer is death. Every story added to an edifice which is meant to be a temple of love is an additional hecatomb of the innocents. Modern civil-

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ization, planning for the best, but mistaken about the means, has succeeded in out-heroding Herod.

These facts are sufficient to justify the abrogation of large institutions designed for the raising of young infants. The facts appear to show, besides, that older children not a single death occurring in 17 of an average age of five years) bear up easily under the same circumstances that are a source of death to the infants.

In the same institution—viz., the Nursery and Child's Hospital—there were 41 births from the 1st day of January to the last of May. Of the infants, 4 were stillborn, 6 died, 23 were discharged, 8 remained in the institution to 1st of July. Those remaining in the institution on the 1st of July were all born in April and May; with a single exception, every one born previous to March 31 having left the institution or died. The 23 discharged infants were in the institution 609 days, each averaging 26.5 days. Those who were born and died in the institution lived altogether 274 days, an average life of 45.6 days in the institution. Those 8 who remained in the institution on July 1st had lived, *in toto*, 340 days, an average of 40.25 for each of the 8. Thus their average ages were not yet the average age at which those 6 died, nor were the ages of the discharged 23 much more than one-half of the average ages of those who died. The naked fact is that of 14 infants (23 having been discharged) 6 died.

Now, if I add the fact that the women are well kept, the food is good and plentiful, medical attendance as efficient as the sometimes faulty method of appointing medical attendants in our public institutions can make it, and the whole institution under the assiduous management of thirty-five ladies belonging to the best society of New York City, I believe I am justified in concluding that a large institution is the very place that nurslings and infants ought to be kept out of. For the poor tenements of our working classes yield better results in their raising of infants than the large institutions the city might be proud of.

From the 1st of June to the 1st of October, 1870, 101

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children were admitted to the Nursery and Child's Hospital. Their average ages were more than 1 year 8 months. There were 29 from 2 to 13 years old, and therefore beyond the principal ravages of fatal disease; 27 were removed after they had been in the institution an average time of 20.4 days. Thus there remained 55 *bona-fide* inmates of less than two years. In that same quarter of a year there are 33 deaths recorded in the books of the Nursery and Child's Hospital.

It is important to know that, according to a list before me containing names, ages, etc., 18 more children who were admitted before October 1st, 1870, died after that day.

This frightful mortality of the inmates of the Nursery and Child's Hospital becomes more apparent by comparing it with the following statistics (of Report, page 38): According to Farr, of 392,224 children born in England in 1867, there died before the end of their first year 65,464, viz., 16.69 per cent. According to Prof. Ritter, of Prague, the mortality during the first year of legitimate and illegitimate children born alive in 1855-1861 was 25.36 per cent. in the Austrian Empire. In Hungary, considered separately, in 1862-1865, 24.95 per cent. In Berlin, according to Chamisso, the mortality of all the infants born alive from 1816 to 1841 was 22.7 per cent. up to the end of the first year (33.5 of the third, 36.9 of the fifth). The rate was lower in 1842-1860; but in 1861-1866 it was 28.4 per cent.

These reports were written and printed (although I am at this day ashamed to acknowledge it—withheld from the public at large in consequence of false professional pride) when the following newspaper article—one of very many—appeared on November 1st, 1870:

The Infants' Home—a Worthy Institution—what it is doing, and how it is done.—Among the legion institutions supported by New York charity, few appeal with greater force to the promptings of humanity than the organization the name of which stands at the head of this article. Doubtless one must watch intelligently its daily workings to fully appreciate the end it is de-

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signed to and does accomplish; but yet the most casual observer can indorse what the managers tell.

The histories which could make our annual reports intensely interesting must be as silent as they are sad. They say: "We often feel that it is not alone our prayers which have brought God's favor on our work, but the sighs and prayers of penitent sufferers have been answered by the constant stream of heavenly blessing."

There have been two large additions to the building, the Asylum corner of Fifty-first street and Lexington avenue, since its occupation for present purposes sixteen years ago, and the last annual report shows 371 children in its care, 100 of whom were born there, and the success of the lying-in wards has exceeded the most sanguine hopes of friends. To these come women—never without reference; some from poverty, some from shame and the world's cold scorn—for bodily and spiritual comfort and sustenance.

The interest of the State Legislature has been so awakened by representation of the board of officers that power has been accorded to take in many who from poverty and despair would have been driven to suicide or infanticide.

The histories and the mysteries of the place may never be written, as we have said before; howbeit, as an example and epitome of all, the reporter might speculate as best might be on the wan, joyless face of one young mother lying there recently, of whom nothing was known save inviolably to those in charge, if, indeed, there was a history; but the framed Scripture text at the head of her bed seemed a chapter of revelation to the visitor reading, "Whom the Lord loveth he chasteneth, and scourgeth every son whom he receiveth."

We went to the children's school—for there is a school for such of the children as are large enough to attend—and neat copy books were shown us with great pride by sturdy-looking boys, and little girls with roguish, happy faces. Their childish voices united in singing for our entertainment, too, and we were shown the first composition that had ever been written in the school—the *chef-d'oeuvre* of little black-eyed Bertha.

Who could think unmoved of these tender ones, rescued, perhaps, from the tyranny of a drunken father, from the breast, earlier, of an intemperate mother, giving thanks that here they were, safe and happy? The annual Charity Ball, in behalf of the institution, has always met with brilliant success, but its necessities increase with its sphere of usefulness, and the pro-

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vision of a quarantine establishment for contagious diseases has well-nigh or quite absorbed the proceeds of the last entertainment, so that, if subscriptions and donations should not be forwarded to the rescue, the work of charity must be much curtailed. The officers the present year are Mrs. Cornelius Du Bois, First Directress; Mrs. T. C. Doremus, Second Directress; Mrs. Henry Anthon, Third Directress; Mrs. E. W. Stoughton, Treasurer; Mrs. Algernon S. Sullivan, Secretary; Miss R. B. Hunter, Assistant Secretary. Among the active managers and honorary members are found the names of many that are "household words" where moral and physical want abound.

This article is but a specimen of many, and none of the most brilliant or affecting of its kind. How they are made up, on the spur of and for the moment, we all know who read our daily papers, the result of many different brains, hearts, and pens. Maybe even those are right who assert that now and then lips of honey, cheeks of milk and blood, eyelashes of silk, hands of velvet, voices of silver, dollars of gold, and other organic and inorganic contrivances have a great influence on men, nations, and newspaper articles. At all events, when you compare a lengthy article in the same paper (the *New York Times* of November 12th, 1871), you will find that in consequence of statistical data contained in my report on "The Raising and Education of Abandoned Children in Europe," and other facts credited to Dr. Parry, of Philadelphia, the placing-out system is pronounced the far superior one.

Let me, however, return to my statistics, or rather go on. First let me direct your attention again to a memorandum copied from the records of the Nursery and Child's Hospital, which I here present. It contains the names and ages of 18 infants and children who had been admitted before, but died *after*, the 1st of October, 1870, that is, after my last report was made up. They range from 21 days to 1 year and 10 months. It also contains the ages of these 18 children at the dates of their death; they range from 2 months to 3 years 3 months and 13 days. It further contains the causes of their death, which, one by one, read as follows: Diarrhœa, tuberculosis, diarrhœa and pneumonia, pneumonia and cholera infantum, diarrhœa and

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pneumonia, chronic pneumonia, pneumonia, pneumonia, marasmus, pneumonia, measles and cancrum oris, measles, diarrhœa and pneumonia, chronic diarrhœa, capillary bronchitis, pneumonia, entero-colitis, chronic diarrhœa, diarrhœa and bronchitis.

I have read this list to you because, after hearing the preceding reports of mine, you might have been under the impression that there were not a sufficient number of children left in the institution from which it could be recruited.

Finis coronat opus. Let me continue:

According to the records of the Nursery and Child's Hospital, which appear to have been as well kept as those from March 1st to October, 1870, 117 babies were born in the lying-in department of that institution from October 1st, 1870, to October 1st, 1871. Of this number 69 were discharged within a short time after their birth; most babies go out with their mothers within a few weeks, some remain a little while longer. The aggregate stay of the 69 little ones amounted to 108 months and 5 days. A month is always taken in my accounts as averaging 30 days; thus the average stay of each of the 69 amounts to 1 month and 17 days.

My information on one of the rest is not positive. I do not know whether James McAlister has been discharged or died. I have not counted him among the dead. Of the other 47 babies who were not so fortunate as to get discharged, 27 died. Their aggregate ages at the time of their death were 69 months, or 2 months and 17 days per head. We have no means of knowing how many of the discharged 69 would have succumbed, if they had averaged a stay at the institution of 2 months and 17 days, instead of 1 month and 17 days.

Of the 20 who remain alive within the Nursery, 9 have been born in the last quarter of the year; 5, viz., 20 per cent., in the very last month. They have not yet averaged 2 months and 17 days. The future will show whether they are to be counted among the living, the dead, or the discharged. The list of the 18 diagnoses (more or less), confirmed by post-mortem examinations which I have read

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to you before, renders it doubtful whether all of them will live.

I wish every practitioner of medicine present in this hall to compare his own experience and statistics among the rich and the poor with these results obtained in the Nursery and Child's Hospital, where every one of the 47 has had its mother's or, in some cases, nurse's milk. Of 47 newborn babies, 27 have died at the average age of 2 months 17 days, and half of the rest are not old enough to have reached this average.

You will now be prepared for some more figures:

**ADMISSIONS OF INFANTS AND CHILDREN TO THE NURSERY
AND CHILD'S HOSPITAL, OCTOBER 1ST, 1870, TO OCTOBER
1ST, 1871, BETWEEN THE AGES OF ONE DAY AND NINE
YEARS, ONE MONTH:**

	Admis- sions.	With aggregate ages.		
		Years.	Months.	Days.
October, 1870.....	25	22	5	23
November, ".....	22	35	11	27
December, ".....	21	27	7	27
January, 1871.....	22	14	4	4
February, ".....	18	23	4	26
March, ".....	17	38	11	9
April, ".....	21	30	10	8
May, ".....	17	24	8	3
June, ".....	19	37	0	3
July, ".....	27	37	5	8
August, ".....	26	43	1	25
September, ".....	18	25	7	13
Total	253	361	9	26

Thus the average of 253 infants or children admitted in good health from October 1st, 1870, to October 1st, 1871, amounted to 1 year, 5 months, 16 days. I naturally lay stress on the fact of their health being good when they

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were admitted; for it is the rule of the institution that it shall be so. This much is sure, that no child has died this year of a disease contracted before it entered the Nursery. Still, so great is the liability of the inmates to fall sick in the institution that the secretary of the Medical Board publishes, in the annual report gotten up in 1870, the unnatural fact that 2,000 serious cases of sickness occurred in one year among 377 admissions; and in that of 1871, over 1,400 cases of sickness in 358 admissions.

Of the 253 admitted from October 1st, 1870, to October 1st, 1871, 128 were discharged within a short time after their admission. I will presume they were all in good health when they left the institution.

	Discharges took place.	Aggregate stay, in days, at the Institution.
October, 1870.....	12	761
November, ".....	10	755
December, ".....	16	1049
January, 1871.....	12	393
February, ".....	11	800
March, ".....	10	666
April, ".....	12	316
May, ".....	8	274
June, ".....	8	283
July, ".....	17	848
August, ".....	7	304
September, ".....	5	132
Total	128	6581

Thus the average residence of each of the 128 inside the Nursery amounts to 1 month 21.4 days.

If you compare the enumerated discharges and admissions in the several months with the deaths, or if you will take the trouble to look over the record I have before me, you will reach the number of babies remaining alive in the institution:

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	Admis- sions.	Discharged since.	Died since	Remain alive.
September, 1871.....	18	5	4	9
August, ".....	27	7	3	17
July, ".....	27	17	4	6
June, ".....	19	8	7	4
May, ".....	17	8	4	5
April, ".....	21	12	9	0
March, ".....	17	10	3	4
February, ".....	18	11	3	4
January, ".....	22	12	8	2
December, 1870.....	19	16	2	1
November, ".....	22	10	8	4
October, ".....	25	12	12	1

After all there were 125 *bona-fide* inmates who stayed more than the average of 1 month 21.4 days. Of these died:

	Inmates.	Aggregate ages.		
		Years.	Months.	Days.
October, 1870.....	12	7	1	8
November, ".....	8	6	6	20
December, ".....	4	0	11	28
January, 1871.....	8	3	10	0
February, ".....	3	1	8	1
March, ".....	3	3	0	25
April, ".....	9	11	10	2
May, ".....	4	2	6	4
June, ".....	7	8	11	12
July, ".....	4	3	1	19
August, ".....	3	2	6	27
September ".....	4	5	9	21
Total	69	58	00	17

If you remember the meaning of the record of the 18 you will expect some more to die. Up to a fortnight ago,

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1, who was admitted at the age of 1 year 3 months 21 days, died at the age of 1 year 7 months, on November 19th, of pneumonia. Thus, up to this date of November 19th, there were 70 deaths among 125 healthy children admitted to the Nursery. The average age at the time of death was 10 months 7 days.

The causes of death are attributed, in 1 case each, to croup, pleuro-pneumonia, enterocolitis and peritonitis, measles, pneumonia and croup, scarlatina and croup, diarrhoea and broncho-pneumonia, pleuritis intussusception, broncho-pneumonia, atelectasis (child of 11 months 4 days), pulmonary tubercle and pneumonia, measles and pneumonia, diphtheria, pulmonary tubercle; in 2 cases each, to marasmus, hypostatic pneumonia, measles and croup, cholera infantum, whooping cough; in 3 cases each, to tuberculosis, atrophy, measles; in 4 each, to chronic diarrhoea and pneumonia; in 6, diarrhoea; 10, chronic diarrhoea; 13, pneumonia.

Of these 70 deaths, 18 occurred in children over a year, 52 in such as were less than a year old. But 3 of the former children had been admitted before they were a year old—viz., 2 were admitted at 10 months, 1 at 11 months 18 days. They died when they were 1 year 2 days, 1 year 17 days, 1 year 2 months 7 days old. Thus we arrive at a sum of 55 deaths among babies who were admitted before they were 12 months old. A large number of them had reached nearly that age at the time of their admission.

But how many babies were admitted under a year, of whom 55 could die within the short space of time reviewed in this retrospect?

Of the total of 253 admitted, 42 were over 3 years, 30 between 2 and 3, 44 from 1 to 2 years—together, 116 over 1 year. Of these 116, 76 were discharged in a short time. Of the remaining 40, 15 (18 less 3) have died within this limited time—a percentage, for the time being, of 37.5 among children over a year, very many of them over 2 and 3 years, and all of them entrusted to the Nursery in perfect health.

Of the 135 admitted at less than a year, 52 were dis-

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charged after a short period; 83 were left in the Nursery as *bona-fide* inmates. Of these 83, the number of 55 died within the limited period which is the subject of this compilation. The aggregate ages of these 83 at their admission was 377 months; the average, 2 months 23.8 days.

Thus it results that the mortality of babies entrusted in good health to the Nursery, at the age of nearly 3 months, within this limited period, is 66.26 per cent.

The aggregate ages of the 55 at the time of their death, including those 3 who passed their first birthday while in the institution, count up to 26 years 11 months 1 day; the average age of each to 5 months 26 days. As their average admission took place at 2 months 23.8 days, they lasted 3 months and 2 days each in the institution.

Some questions submit themselves very readily:

1. What will happen to those who have reached, like the dead, the end of their sixth month by this time, and will stay in the institution to the full end of their first year? For the average ages of those 18 above mentioned, who were admitted before October 1st, 1870, and died after my former report was made, amount to 10 months 6 days.

2. Was it fortunate or not for the 128 discharged children to stay but 51.4 days in the institution, as the time averaged between admission and death is 3 months 2 days?

3. What is likely to become of the 20 living babies born in the place, and remaining at the present time in the institution, provided their stay is extended to the end of their first year? On the 20th of November their average life was a trifle more than 6 months, and up to that period 27 out of 47 (57.45 per cent.) had died.

4. If $66\frac{1}{2}$ per cent. perish among healthy infants admitted, as those of the Nursery, at an average age of 2 months 23.8 days, what would be the percentage if the babies were admitted at birth under the same circumstances?

To facilitate the answer to this latter question, I beg you to compare the statement laid down in a table contained in my "Report on the Raising and Education of Abandoned Children in Europe," New York, 1870, page 29 (see table on opposite page). From this table, which

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has been taken from official documents, it is evident that the mortality of babies who have reached the end of their first quarter is but one-third or one-sixth, for each following quarter, of what it would be from the first hour to the end of the third month of life. The above four questions are herewith submitted to your consideration.

OF 100 NEWBORN INFANTS WHO DIED IN :

	Belgium, 1840-50.	Holland, 1848-53.	Austria, 1851.	Sardinia, 1813-37.	France, 1853.
0- 1 month...	5.18	4.70	10.96	11.14	6.60
1- 2 months..	1.76	2.29	2.55	1.87	2.85
2- 3 "	1.27	2.09	1.96	1.43	
3- 4 "	1.08	1.91	3.42	2.51	2.39
4- 5 "	0.86	1.48			
5- 6 "	0.76	1.19	2.40	4.89	3.15
6- 7 "	0.72	1.77			
7- 8 "	0.66				
8- 9 "	0.66	1.42			
9-10 "	0.65				
10-11 "	0.63	1.29			
11-12 "	0.80				
0-1 year..	15.03	18.14	24.07	21.84	14.99

I think I might go on *ad infinitum* with the practical conclusions. I want to draw but one conclusion—viz., *that the attempt to raise babies in great institutions, even with large means to aid you, cannot be justified; that these institutions must be given up and reserved for other purposes, and that the only system worthy of being sustained is to place the children out with private parties.*

And now let us for a moment examine into the expenses of large institutions like the Nursery and Child's Hospital.

On page 12 of the Seventeenth Annual Report, under the heading of "Financial Report," you will find the expenses between March 1st, 1870, and March 1st, 1871, laid down at a little more than \$75,000. Of these I deduct at once \$30,000 for "temporary investment," "part pur-

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chase of Country Hospital," and "furnishing and support of Country Hospital." Balance, \$45,000. As repairs and insurance are counted up with more than \$4,000, I estimate the rent of the immense buildings at \$20,000 only. Thus I take \$65,000 as a fair, or rather low, average estimate of the whole sum spent for the benefit and support of 253 admitted children, and 117 lying-in women with their infants. *They are the only beneficiaries*, for the mothers taken in with, or in behalf of, their nurslings, and the wet-nurses, cannot be counted in this class any more than the matron, the ward nurses, or the domestics.

Those beneficiaries did not stay in the institution through the whole year, but a very small part of it only. The aggregate stay of the newborn who were soon discharged amounts to 8 years; of those 27 who died at the average age of 2 months 17 days, to 6 years; of those 20 who remain after the close of the year (October, 1870, to October, 1871,) to 8 years. The aggregate stay of the 128 children who were admitted and soon discharged, to 18 years; of the 125 who are dead or still alive, to 60 years. Total, 100 years. The aggregate stay of the pregnant women who were confined in the institution may be set down at 20 years. Thus \$45,000 without rent, or \$65,000 rent included, are spent on a *year's board* of 100 children (the newborn included) and 20 adults, said board averaging the sum of about \$400, rent not included.

How nearly correct this estimate is you find corroborated by the fact that the sum of about \$12,000 is credited as "house income" in this year's financial report. Our summing up would average a yearly board paid by the inmates of \$100, or a monthly one of about \$8.00, which is almost the very figure (a little less) of the average board paid to the institution.

While I remind you of the fact that my figures cover the time from October, 1870, to 1871, and the report alluded to the time from March, 1870, to March, 1871, and that, therefore, trifling differences may be found, you will still find a few of the items in the expenses highly interesting.

The 120 annual boards required in round numbers:

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\$25,000 for provisions; wages amounted to \$4,000; stationery, printing, and collecting (of \$1,195 "subscriptions," I suppose), to \$625; wine, brandy, drugs, and surgical instruments, \$1,800.

Let, however, these figures suffice. He whom they have not yet convinced of the truth of my statement that large institutions, no matter what their means are, will destroy their infant inmates, may, perhaps, change his mind or still further investigation. At all events, it will prove a difficult task to trace the fearful mortality of the institution I have spoken of to radical faults in the manner in which it is conducted. I do not think there are many shortcomings in the administration of that institution which will not be found in all carried on upon the faulty principle of accumulating large numbers of infants under one roof. Still, it must be said that institutions under dozens of managers labor under unusual difficulties—never thrive well. There is always something meddlesome, fidgety, inconsistent, incongruous, in large numbers; nor is the transaction of business by a ring, if we are well informed, cheap or expedient; nor can we presume that, where less special knowledge, than ambition and theoretical love, is brought to bear upon a serious task like that of conducting an infant asylum, the results are surprisingly favorable. I say "theoretical love"; for, where a board of several dozen managers in New York City cannot command more than seventeen hundred dollars' worth of "subscriptions and donations," I dare say that love requires more practical illustration.

Old Homer says that a government of many heads does no good. He wants one master. Perhaps he thought of infant asylums. The improvements effected in the management and mortality of the Infant Hospital (Randall's Island) by the intelligent administration of a single medical officer with his subordinates, under the control and in the pay of the Commissioners of Public Charities and Correction, speak for the advantages of special knowledge and a uniform plan.

Let me, then, again urge the fact that large infant asylums will destroy children.

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When this fact became known, many experiments were made of distributing infants over a number of places—the so-called cottage system. Six, ten, twelve, were kept in a small separate institution. The disadvantages are plain. The increased number of households raises the expenses, the difficulty of obtaining wet-nurses increases, control and medical attendance became more and more difficult. The cottage is, in fact, not much, if at all, better than a ward in a public institution for such purposes.

What, then, is left but to board out the infants in the country. For, although the experiments of the Catholic foundling institution in Waverly Place are by no means as bad as the experience of twenty years ago rendered probable, common sense, hygienic principles, and statistics point to the country as the residence of the children of the common wealth. When this conclusion will be the conviction of all, the necessary steps will be taken, no matter how great the difficulties may be. With us they are not small.

Our population adjoining the great cities, especially New York, is not so large as in Europe, and is not so poor. It is not of such vital importance for a country family to avail themselves of the trifling subsidy paid for the infant boarder. But there are some considerations which are to be taken into account. The first is, that the infants we have to care for do not count by six or ten thousands every year; and the second, that the sum which is at present spent for every infant under the charge of the Commissioners of Charities is by no means a trifle, and, under the Managers of the Nursery and Child's Hospital, enormous. It would be found, on trying, that the apparent difficulties in procuring proper country homes for our infants would by no means be so great as they may appear at first sight. Even if there were some in the beginning, we should always gain.

The question whether it would be desirable to leave, if possible, the young illegitimate child in charge of its mother, cannot be answered in a manner uniformly adapted to every case. The facts exhibited by the Munich records, according to which the children reared by their own moth-

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ers have a fearfully larger mortality than those entrusted to strangers, do not look encouraging. In our city I am afraid that many of our unmarried mothers would not prove excellent nurses. Still, the fact of their being sufficiently supported might change the circumstances.

There is another consideration not to be lost sight of. Unfavorable though all circumstances be within the walls of an institution, mortality can be reduced by procuring paid wet-nurses for the same. We know that our nursed infants thrive much better than the bottle-fed. But no breast milk is obtained except from those who have no home—the poorest and most miserable. No married woman, as a rule, at least none who has the slightest means of escaping the discipline of and submission to institution rules, will ever consent to become a wet-nurse to any of our children. Thus we have to take either the sickly, the profligate, the very poor, or consider ourselves very fortunate when we succeed in securing the own mother's breast for the support of the infant. Many mothers, however, who have a home in the country, have lost a young baby, or have milk enough left, after weaning, to nurse, or enough to nurse two, but who would never consent to leave their husbands and children, could be induced to take charge of an infant. A careful comparison of the direct expenses of the two modes of rearing infants, out of and in asylums, in Europe, has proved that even there no pecuniary loss is incurred by the more advantageous and humane proceeding.

Besides, the nurses necessary for the infants in institutions are just so many nurses kept out of the service of the general public. In New York City wet-nurses are scarce since the humane efforts of the Commissioners of Charity and the Catholic foundling institution have been directed to the task of supplying our foundlings with human milk. Thus it is very probable that what society gains on one side, in the saving of the destitute and poor, is lost among the public in general. At all events, such element of proper food as is accessible at its own home only—that is, breast milk of the countrywomen—is left unavailable and unused.

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If not absolutely necessary, no attempts at obtaining breast milk ought to be made within the limits of the city. Besides the other damaging influences of city life and city atmosphere, which alone destroy so many infants' lives, the experience of former times, of boarding the city's infants within the boundaries of the city, has been very unfavorable.

It is not my attention to go into the particulars of administration at this moment. Still I beg the privilege of pointing out a mode of action which in some parts may prove faulty, but which under our circumstances will, in my opinion, prove sufficiently correct to enlist sympathy or bring out a discussion. Before so doing I again refer to my opinion on the responsibilities and duties, and the rights, of the State. *The whole administration of the foundlings ought to be controlled by the commonwealth. Both private and sectarian establishments ought to be under governmental supervision; ought not to be supported or aided by the State, but not interfered with so long as their successes and general management appear satisfactory; the department of the foundlings to be centered in one office; the necessary appointments of the head or heads to be made by the Governor of the State.*

The expense of boarding the foundlings, except those in private or sectarian institutions, to be borne by the people of the State of New York.

By concentrating the administration, the running expenses would be but small in proportion. New York City would have a single depot for the abandoned children, from which speedy distributions would take place. The large buildings at present dedicated to the purpose of raising infants would soon be required for those children who would be returned from the country after reaching the age of three or five years. Some might become hospitals—we have no child's hospital in New York City—some schools and asylums for the older children of the community, where they would be taught to become useful citizens of the Republic.

I assume a mortality in the first year, say, of 25 or 30 per cent. of infants abandoned in their first year. After

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that time the mortality will become small. Of 1,000 abandoned infants, 750 or 700 must reach in future their twelfth month. I assume \$150, the amount spent by the Commissioners of Charities and Correction, to be a fair average for yearly board. Thus 1,000 abandoned infants would cost the State per annum, say, \$12,000. The 3,000 lives endangered or thrown away every year might cost us \$350,000 yearly; but then we should certainly succeed in saving most of them, at a proportionately small expense, and educating those many who have been saved.

The first steps in this direction would be to awaken the interest of the public, particularly in the country. Sympathy and interest must be stimulated contemporaneously. The printed minutes of the Commissioners of Public Charities and Correction of last year contain a proposition to make preparations for boarding out babies, submitted by the Medical Board of the Infant Hospital, Randall's Island. The Commissioners have, I believe, deferred further action only in consequence of the necessity of keeping up all their numerous charities, and from their fear of not being capable of meeting a momentary increase of expenses. But lately a paper was prepared, which was intended to be circulated over the signatures of the Commissioners, containing similar propositions. It is but justice to say that I have been told by them this very day that they considered the publication impracticable at that moment, but approved of and indorsed all its contents. I have requested and obtained the permission to read it, and abstain from any remarks or additions. It is written in the form of a letter, which was to be distributed among such persons as are mentioned in it, and, with its remarks and suggestions, will explain itself. It reads as follows:

DEAR SIR: Your special attention is herewith directed to the claims of a class of destitutes who, as they are helpless, are the more deserving of the sympathy of the just and benevolent. In their behalf the Commissioners of Charities and Correction have tried to improve the methods of supporting, raising, and educating, have built costly edifices, and gladly availed themselves of any advice their medical boards could afford them.

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Still the results of their efforts are far from being satisfactory, and, after careful consideration of the difficulties to be overcome and the aims to be reached, the undersigned request you to give your attention to the following remarks and to lend your valuable aid in furthering their endeavors.

The class of destitutes in question are the foundlings and abandoned infants, amounting to the number of about three or four thousand a year, in the city of New York. Their claims have been so well acknowledged of late, and the public at large have become so conversant with the humane and political aspects of their case, that a number of associations have been formed for the purpose of either raising them or educating those who survive.

From a report laid before them by the medical board of their Infant Hospital, which admits yearly about 1,200 or 1,400 of these destitutes, we gather the fearful and embarrassing fact that infants collected in large institutions, of the best hygienic designs, with the most careful dietetic and medical care, will die in large numbers. This immense mortality is particularly great in earliest infancy. Of 47 deaths in New York City under five years of age, 39 occur under two years and as many as 30 under one year. The mortality of abandoned children under the charge of public or private authorities is still larger. The very accumulation of infants under one roof, the scarcity of breast milk obtained, the difficulty of securing competent nursing for a large number of infants, the ravages of contagious diseases, the poisoning by deleterious exhalations and excretions, etc., are just as many obstacles to the health and life of the young inmates of our public institutions. The difficulties of raising infants in our institutions and of gathering a sufficient amount of breast milk in for them induce the undersigned to try a change with a part of their inmates. A number of them are to be given in charge of responsible parties in the country surrounding New York. The not unfavorable results of farming out, even in cities, when compared with the mortality of institutions, encourage us to hope that infants farmed out in the country have a much greater certainty of life and a healthy future. And, with regard to this plan, we have herewith taken the liberty of sending you this communication.

We propose to farm a number of babies out until they have reached the end of the third year. In particular cases special arrangements may be made beyond that age.

Babies who have no teeth are expected to be fed on breast milk exclusively; such as have from two to four teeth, on

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mixed food. Afterward they are to be weaned according to such rules concerning the feeding of the children as shall be laid down by the undersigned or their medical board.

A single party is to be entrusted with but one nursling. A medical examination only can decide whether in exceptional cases a woman is fit to nurse two infants. She may, however, obtain an older child in addition to the nursling.

She must either be married, or a widow, or very well recommended. She must have plenty of breast milk for the nursling in charge, no matter whether she has lost her own baby or has sufficient nourishment for two (her own and the stranger). She must be healthy, not destitute, not intemperate, and known to be industrious and not entirely dependent on the board paid for the nursling. She has to present a certificate from responsible parties—physicians, clergymen, postmasters, town authorities, or well-known citizens—concerning the above requirements, stating also how many children she has and how many she has lost.

The applications of women who offer to take charge of infants are made at the office of the Commissioner of Charities and Correction. The depot of the babies is at Randall's Island. The house physician notifies an applicant to call for her boarder. She has to call personally. Travelling expenses are refunded. The board money is ten dollars a month, to be paid semi-monthly, monthly, or bi-monthly.

Besides, we offer to pay twenty dollars to a party, with whom a boarder has been living for sixteen consecutive months, at the end of his second year.

These are the outlines of the principal rules which, in all probability, will govern the farming-out of infants in the country. We now apply to you, sir, and your friends, for your opinion and your co-operation. You can advise us, if, in your circle and neighborhood, the men in standing and authority, as mentioned above, would be found willing to help the cause of humanity and an enlightened political economy by giving such certificates as parties would require, by even encouraging a party to serve herself and the public by taking charge of an infant, and also by paying a certain amount of attention to the little one who has no mother but the community.

The general superintendence will have to rest with the medical board of the Infant Hospital. Their house physician shall be entitled to provide for special inspection. Still, it will be of the utmost importance to interest the public at large in the welfare of the foundlings, particularly the ladies, who, accord-

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ing to localities, might form committees for the purpose of watching and superintending the foundlings and their nurses.

You are respectfully requested to give the foregoing your attention, and to communicate to us your opinion as to the feasibility of our plans; whether, in your opinion, a certain number of women would be fit and willing to charge themselves with bringing up an abandoned infant in your neighborhood, and whether yourself or your friends, or their ladies, would be found willing, by occasional inspection, etc., to aid our attempts in raising infants, whose life is as valuable to society as our duties toward them are clear.

While offering the suggestions of this letter and my previous remarks to your consideration, I am fully aware of not having exhausted the subject. I have already, I know, to beg your pardon for keeping you so long. You will, I am sure, excuse me, on account of the importance of the subject on which I have spoken.

Quod felix, faustum, fortunatumque sit.

VALEDICTORY REMARKS BEFORE THE
MEDICAL SOCIETY OF THE COUNTY
OF NEW YORK, 1872

THE second term of my office has reached its normal end. I avail myself of this opportunity, while about vacating this chair in behalf of the President-elect, to tender you my thanks for the honor twice conferred upon me, and to apologize for such shortcomings as are apt to be committed, in such a high office, by a man whose soul, it is true, may have been in the performance of his duty, whose experience and knowledge, however, were certainly not in proportion to his good-will. If there is any one whom I may have offended in performing the duties of my office, I ask his pardon; those, however, who have always looked upon my endeavors in behalf of this Society and the profession with favor and kindness will please accept my heartfelt thanks.

The last year has been, I believe, as successful as that which preceded it. The increase in our members has been steady, seventy-one members of the profession having been added to our list, while a number of names, part of them those of old and unusually valuable members, have been stricken from our rolls by death. The working of the committees has proved, on the whole, satisfactory, with the exception, perhaps, of one of them, in which a newly introduced feature—the subdivision into specialties—might have worked better. A number of reports expected by the Society have not been forthcoming. As they were promised, however, we cannot say that the opinion of the Society, or of the members of the committee itself, was opposed to the change. On the contrary, further experience will have to show whether the subdivision of the reports of the Committee on Intelligence will not prove as satis-

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factory to us as it is in accordance with the rapid progress of the several branches of medical science.

As far as the Committee on Meteorology is concerned, the Chair last year appointed its members to serve also on the Committee on Diseases. It may be that some further experience is still required to decide the question whether its abolition as an independent committee is not a desideratum.

The following synopsis gives the most important features of the meetings held during the year past:

December Meeting.—Inaugural, and Paper on Foundling Asylums, by the President.

January Meeting.—Clinical Remarks on Diseases of the Conjunctiva and Cornea, by Dr. H. Althof.

Adjourned January Meeting.—Memorials of Drs. Bibbins, George T. Elliot, A. N. Gunn, and H. D. Bulkley.

February Special Meeting.—To discuss and take action on the bill entitled "An act to protect the people against quackery and crime."

February Meeting.—Vital signs in Disease, with special reference to Clinical Thermometry, by Dr. L. D. Bulkley.

March Meeting.—The Chemistry, Physiology, Therapeutics, and Toxicology of Veratrum Album and Viride, and their Alkaloids, by Dr. E. Peugnet.

April Meeting.—The Labyrinth of the Ear, its Structure, Functions, and Diseases, by Dr. Knapp.

May Meeting.—The Physiology of Syphilitic Infection, as applied to the successive manifestations of the Disease, by Dr. F. N. Otis.

June Meeting.—Resection of Maxillary Bones without Incision, by Dr. Goodwillie.

September Meeting.—Nomination of Officers, and Paper on the Necessity of a Knowledge of Morbid Anatomy, illustrated by Cases, by Dr. E. G. Janeway.

The papers read before you were all very valuable. They did not all claim to have increased the stock of universal knowledge by the results of some original research, but by their own contents and the subsequent discussions they have added to *our* stock of knowledge. Real and rapid progress is the result of severe and solitary labor,

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such as can be performed, as a rule, only by those men whose sole or principal object in life is mental work. The scientific domain of medical societies like our own is to foster and harbor scientific tendencies and ambition in the individual members, keep them informed, and give them an opportunity to express their own thinking on scientific facts or subjects, and by speaking improve their very thinking. Societies like ours form, as it were, the small *municipia* in the republic of science, consisting, perhaps, of not many citizens of egregious proportions or resplendent faculties, but of those who are sound, conscientious, thinking, progressive, and humane; seekers of truth, honesty, and the good of the profession and of mankind; proud of their position in the midst of anthropological science, and modest in the full knowledge that convictions are changeable, theories subvertible, and that seeking after truth is the only thing permanent.

Thus we ought to be proud to a higher degree of our facilities than of our faculties and accomplishments. Science is forever in its development, and even in its undeveloped state no single man has ever mastered it. This fact should be sufficient to extinguish vanity and self-complacency, qualities which are more common in an illiterate backwoods quack, or a gin-drinking sea captain, than a humanitarian and physician or a Laplace. Nor ought we, as physicians, to be so very proud of this our belonging to a profession *the access to which is, I am sorry to say, as easy as it ought to be difficult*. What we accomplish in the profession in the interest of professional, scientific, and social progress, in the seeking for truth and its applications, is the thing to be proud of, although not to boast of.

What would you think of a physician who, on the standpoint of fifty years ago, would have boasted of his diagnostic accomplishments—auscultation and percussion in their cradles, and Bright's book not written? Or of a microscopist who, twenty-five years ago, diagnosed cancer by so-called cancer cells, which we now know to have the only peculiarity of being impossible and non-existing? Or of a pathologist who, twenty years ago, would

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explain cyanosis by a normal anatomical condition: the potency of the foramen ovale? As we would be unwilling to permit them to boast of their times, let us therefore be careful. We shall in our lives, I hope, throw off many an error, learn many a new fact, and see light shed upon many a dark field. When we remember how we have outgrown our immediate predecessors in knowledge and, what is of more importance, in methods of investigation, let us be anxious not to deserve the smiles of the generation to come.

The meetings of the Society have been well attended. If any proof were necessary, the presence of one hundred and twenty members at the last election would be convincing. The same fact goes also to prove that the large majority of those in attendance were always members of the Society, not guests. The presence of the latter is surely pleasing, inasmuch as it exhibits, on their part, an interest in the persons of those who are expected to speak, or the topics to be discussed. As long as the legitimate objects of the Society are not interfered with, their visits are thankfully received. It is to be desired, however, that their interest in the person who is to be the lecturer of the evening should not be so powerfully superior of that in the subject discussed that their presence should be thought necessary, even at the expense of private study and the requisite rest. I do not believe that the presence of hundreds of first or second course students of medicine or law aids the objects of a learned society, or their own studies, which might be more profitably given to the dissecting room and to the notes taken in their undactic lectures. Nor do I think the members of the Society, provided they can find seats on such occasions, are gratified by the noisy applause, on especially hitting or satisfactory occasions, equal to that in a concert room or circus. We find that men with their hearts in a cause, and aiming at knowledge, will but rarely applaud. In fact, the opportunities for an outbreak so enthusiastic as to overcome decorum and the dignity of science, ought to be considered to be very few in number indeed. Nor, finally, can I imagine the members of a society to feel

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like entering a discussion when the final decision is, as it were, entrusted to the hands and feet of those who expect to come up in a year or two for their examination in the elements of medicine.

Moreover, a scientific society is a select circle of persons whose general education, in at least a number of subjects, must be considered equal or nearly so. Unless such is the case, a fertile discussion is out of the question. Nor is it impossible that many a gentleman, if he means to be intelligible to both guests and members, will avail himself of a phraseology accessible to every beginner; will avoid topics requiring more extensive preparatory studies; in fact, the character of discussions and papers *may* suffer. You say there is no necessity for that, and guests do not determine the character of the proceedings. Still, there is no man who is not influenced by large masses, who have something intoxicating in themselves, and none who is superior to the wish to be understood by all who, for some reason or other, have come to hear him. While, then, it must be our object to be as numerous as we can—to count, in fact, all the members of the regular profession amongst our numbers, have as large meetings as possible, open our doors wide to every one who is competent, in the interest of ourselves and the scientific subject to be discussed—we should not encourage or crave the visits of guests whose very studies ought to confine them to other fields and narrower limits. Their interests and ours, for the time being, are not the same; if our proceedings are of such a character as to do justice to this Society and the standard of modern science, they cannot possibly gain by the presence of such persons in our circle, complimentary though it may be. It is true we cannot close our doors, nor say who is a desirable or undesirable guest; but the question once raised can be easily answered by any cool judgment. I do not hesitate to say that the meetings of a learned society are no place for a medical student, unless he be the exceptional one who, both by talent and work, is superior to hundreds of his fellows; as I have never hesitated, for a dozen years past, to advise the students of the first course not

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to visit any professor's clinic. If we do the same thing it is not the same. Where the necessary preparation is wanting, it is wasting time to battle with the higher branches. This may appear a delicate question. If I speak of the subject at all to-night, I hope it will be understood that I unwillingly submit to it as one of the stern duties of the office which has been entrusted to my hands for such a long time, and which I am about to deliver into those of a worthy and more competent successor.

The last year has seen no such disturbances as did a previous one. I congratulate the Society on this proof, or at least outward show, of decorum and professional propriety. No charges have been brought against any member, nor has any breach of professional ethics become public. No matter whether this is the result of nothing of the kind having occurred, or whether those offended or harmed have thought it below them to take notice of it, the result is a favorable one. Much valuable time has been saved, without the self-imposed discipline of the profession (which is the stricter, the looser the bands woven around us and our liberal profession by laws and statutes) having suffered in any way. We all remember to what extent, some time ago, our meetings, and a number of meetings of the Comitia Minoda, were encroached upon by the pressure of individual claims, surely to the disadvantage of our legitimate duties. Many and various they are. I have in former times alluded to the many topics which might be subjects for discussion by this Society, and to the duties imposed upon us by our intimate connection with the political commonwealth. It is certainly our right and our duty to consider such matters as are of equal interest to both the citizens of the Republic and to physicians. Amongst those I should count, first of all, matters belonging to the preservation and the restoration of health. Hygiene in general, the condition of the institutions of education, charities and correction, in particular, belong to this class.

This very Medical Society of the County of New York,

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and the Medical Society of the State of New York, are the legitimate authorities, without whom, as we now stand, no law respecting in any way the public health ought to be passed. Is the responsibility too great for us? Where is the responsibility to rest, except with those who have the required knowledge. Is it to be with the legislators, whose great merit consists in the fact that they had a majority of voters as ignorant as themselves? Or are we afraid of being accused of working in our own interest, when our discussions take hold of a subject of such vast importance to every living being; when, without remuneration and thanks, we improve the health of our neighbors, whose sickness would be of pecuniary advantage to us? Or are we to be afraid of being called the most terrible name on the tongue of a long-maltreated and thoughtless public—a “ring”? As long as we work for the public good, whether we are five hundred or a thousand, we need not be afraid to be called a ring. And if we were five instead of five hundred, this is the place in which the public interest, as far as health and life are concerned, ought to be considered and protected. In such questions of public safety the County Medical Society ought to take a decided stand, and not fear the other terrible words—to *commit themselves*. If there is a discrepancy of opinion, ours on one side and the misinformed public on the other, it is much better to *commit* ourselves—that is, to pronounce our opinion and conviction and knowledge, without fear or hesitation. If Socrates, St. Paul, Luther, Galileo, and Giordano Bruno, if Washington and Paine, had feared to commit themselves, where should we be to-day? Fortunately for mankind, there have always been men and rings who have not hesitated to commit themselves in behalf of what they knew to be right, or in opposition to what they considered wrong; men, and sometimes rings, who would follow their convictions and consciences, no matter whether they expected to die with the crown of martyrdom or that of glory on their temples. Nothing will change more easily than the vociferous applause or curse of the populace; no thanks

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will be more certain and perpetual than those of the genius of mankind for efforts and acts in the service of humanity.

I hope and trust that many questions of public interest will come before our forum, where they belong; that all questions of health and hygiene requiring investigation and discussion will be raised and answered here; that in true scientific ambition and co-operation, this Society will work with other equally interested societies and men; that, moreover, purely scientific subjects—that is, those whose immediate connection with the trivial bread-and-butter question of every-day life is not yet found—will meet an ever-ready sympathy amongst us.

With these expectations and wishes for our welfare as a medical society, and as a professional, scientific, and public community, I retire from this chair, knowing that whatever one man can do in accomplishing tasks requiring honor, zeal, self-sacrifices, and capacity, will be done by my successor.

BIOGRAPHICAL SKETCH OF ERNST KRACKOWIZER, M. D.

ALLOW me, Mr. President, to offer an expression of my gratitude for the honor you conferred upon me when you permitted me to speak before this Academy in memory of Dr. Ernst Krackowizer. I am well aware that you appointed me for this office, sacred and dear to me, for no peculiar fitness of mine, but out of regard for our deceased friend, who for nearly twenty years both honored and benefited me by his intimate and unwavering friendship. With this knowledge, and from this point of view, I have gladly accepted the opportunity to speak of Dr. Krackowizer before this Academy, for which he worked so assiduously and effectively, and which he both loved and graced so much. With no scientific society was he more intimately connected, for none did he more permanently strain his many powers, and none deserves more than this Academy to cherish and refresh the memory of one who cannot be forgotten because it will be no mean task to fill his vacant chair.

You remember, Mr. President, that Dr. Krackowizer, in the last year or two of his life, while nobody ever saw him flagging or faltering in the performance of his many duties, looked less strong and hearty than in former times. His features were often haggard, and an expression of wearisome care and overwork shaded his brows. His most intimate friends looked upon him with uneasiness and sorrow, and would express sometimes their fear lest some acute disease would not find in him sufficient vitality and power of resistance. Their anxieties were awakened when, in the early part of July, he looked paler and more exhausted than ever, and when he was compelled to desist from working half a day from time to time. Still he was about. Up to the 9th of August he was in steady, anxious

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attendance upon an old and intimate patient, who died at that time, and whose autopsy he superintended and partially performed. That was his last effort. Every one present at the funeral remarked that he was sick; after the funeral he went to his residence in Sing Sing, never to return to this city, the field of his labors and honors.

His typhoid fever, although it preyed upon his mind considerably, and depressed and discouraged him much, took a very favorable course. There was in due time enlargement of the spleen and roseola, there were the regular temperature curves, there was a little catarrhal diarrhœa in the beginning, and again some diarrhœa on the ninth or tenth day, but there were no bronchial symptoms of much account, absolutely no delirium, no very high temperatures, and no frequent pulse. During all the first three weeks of his sickness the thermometer never ranged above $104\frac{1}{2}^{\circ}$, his pulse never rose above 88. Convalescence commenced, there was no fever, and twice was he out of bed, enjoying the outlook over the green lawn and the shadows of the trees, and the sunbeam playing on the foliage, as only he could, with his intense love of the eternal beauties of nature. About the 7th of September he was taken with diarrhœa, which soon reduced what little strength he had. Some active treatment was commenced soon, and in a day or two he appeared to improve. A new attack of diarrhœa, more severe than before, set in on the 12th. From that time he began to sink, the diarrhœa became uncontrollable, occasional darting pains, peritonitic, made their appearance, pressure became painful here and there; finally, on the 16th, his stomach refused to accept a sufficient supply of food. Henceforth the question was only one of time and favoring circumstances. If his digestive powers would suffice to sustain him until his diarrhœa could be effectually stopped he might live, not otherwise. He knew it as well as his physicians. He spoke of it more quietly, more convincingly, than his physicians dared to fear. No Socrates ever spoke of his approaching death with more equanimity than Krackowizer, whenever the subject was mentioned. Only, Socrates did not suffer pain long weeks before he died, and

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his brain and mind were not influenced by a long sickness when he conversed about death in his dying hours. Krackowizer had to suffer from the agonizing symptoms of his entero-peritonitis, after having been enfeebled by his previous sickness, up to the hour of his death. Before a few quiet minutes closed that wonderfully active and harmonious life he suffered severely, all the time preserving the clearness of his mind and the goodness of his heart. In his last hours, now and then, while always suffering intensely, he would speak of something to be looked after when he would be gone, had a word of pity for a friend who would badly miss him, or a smile for a child whom he would send out of the room to spare her the agony of seeing such a father die. Finally he succumbed in the afternoon of the 23d of September.

About half a year ago Dr. Krackowizer, in a conversation with a friend, touched upon the usual forms of referring to the deceased members of medical and other societies. The customary expressions of esteem and regret, the appreciation of the inscrutability of Providence, appeared to him more than superfluous. Everything monotonous, habitual, and therefore unmeaning and unspiritual, he revolted against. Never appreciating or acknowledging that he was one of those whose brow had been touched by the genius of intellectual and moral superiority, it could not enter his mind that what would be words of sympathy, it is true, but words only in the cases of many other men, would be words borne out by the spirit of holy truth in his own case. He went so far as to say that, if ever he knew his death to approach, he would rather resign all his honors and memberships than expose the large number of societies to which he belonged to the necessity of drawing up and publishing a string of preambles and resolutions. He has not succeeded in acting upon this idea of his. If he had, it would have made no difference. It was quite consistent with both the greatness and the modesty of that man to avoid display, but it was also consistent with the good sense of the public, the general sorrow, the universal appreciation of his words and services, that the expressions of sympathy, of sorrow, poured in after

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he was dead. Hundreds of men of all ranks and stations—men of science, medical men, merchants, poor workmen—crowded the quiet thoroughfares of the far-off village in which he died and found his resting place; a score of societies and corporations gave official expression to the deep sense of their bereavement; four thousand persons filled Steinway Hall to overflowing when the public at large honored themselves by honoring the memory of the man whose loss every one deplores as his own. And to-night the medical profession of the city has assembled to listen to a few words which, if they could claim anything, would endeavor to claim but one merit—that of absolute simplicity and truthfulness. In the case of this man nothing is required but to relate his life. No eulogy will ever reach the eloquence of his life and death. To tell the story of the life of a great and good man in the presence of the old, for them to remember and enjoy; of the young, for them to admire and profit by, is to preach the best of sermons.

Ernst Krackowizer was born on the 3d of December, 1821, in "Spital am Pyhrn"—hospitium ad Montem Pyhrn, as it is called in old annals—a small town in Upper Austria. His father, Ferdinand, was an officeholder under the imperial government, in very moderate circumstances; of liberal political principles, and therefore suspected and neglected by those in power; of a high order of intellect, and given to philological and historical studies, and therefore connected with many authorities in the domain of learning and science. He died at the age of forty-nine, in 1826. His mother, Therese Richter, a modest and cultured woman, died at the age of seventy-two, in 1867. He had five brothers, and one sister who died at the age of thirteen years. After the death of her husband, Mrs. Krackowizer moved to Kremsmünster, a larger town, with a "gymnasium" (college), in order to increase the opportunities of her sons for a thorough education. There it was that Ernst Krackowizer completed his preliminary and classical studies, before, in 1840, he matriculated in the medical faculty of the University of Vienna.

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Here he soon obtained an enviable reputation as a thorough student. Endowed with a remarkable memory, rapid perception, and clear judgment, he commanded the respect of his teachers for his accomplishments. His genial disposition, earnestness of purpose, readiness of wit, and sparkling humor endeared him to his fellow-students, whose regard and love for him increased almost to fanaticism. While thus combining study and enjoyment, he neglected none of the many qualities of his richly gifted nature. The first impressions of his childhood and youth were such as to awaken all the best instincts of a young being. Upper Austria, with its forests, mountains, and valleys, stretching from the Danube to the Alps, is one of the most beautiful countries of the globe. Its population, thoroughly German, is one of the most genial and poetical. Popular song and poetry embellish the existence of rich and poor alike. Here it was that Ernst Krackowizer was first imbued with his undying love of nature on one hand; on the other, with that of music, and art in general, and his warm affection for and participation in the life of the people. Thus, with all the warmth of his heart and the spiritual tendercies of his mind, he proves to the last the observation of philosophers that the individual is the product, to a great extent, of the circumstances he lives in; and of historians, that nations are shaped by their soil and environs and climate. Here it was also where Krackowizer contracted his predilection for physical exercise. Twelve times, in the autumn vacations, would he travel on foot, knapsack on his shoulders, over valleys and mountains, from the Danube to Venice; over the Alps, through Hungary and Croatia; always collecting zoölogical and botanical specimens, studying the country and people, strengthening his body and enriching his mind. Many times, in later years, would he refer to these meanderings, never forgetting the name of any mountain peak he had climbed, and remembering the passes and byways and travelling incidents with remarkable fidelity.

The third year of his studies he passed in Pavia, where he was drawn in part by his desire to learn the Italian language, more, however, by his poetical longing for the

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country where Horace smiled and Petrarca sung, where Roman greediness and success accumulated untold treasures of science and art, and each field is glorified with the tales of German victories and defeats. His fourth and fifth years were again spent in Vienna, where he was graduated. At this period of his life he gained the first-fruits of his superior intellect and hard work, in being admitted to the special operative course, under the supervision, at that time, of one of the greatest European surgeons—Prof. Schuh. This course lasted two years, after which time he moved from Vienna to a small town, Steyer, for the purpose of engaging in medical and surgical practice. But after a very few months Prof. Schuh requested him to become his clinical assistant. Thus he again appeared in Vienna, the boy of his old teacher, the pride of his former fellow-students, the example of the younger men. Schuh was no longer his professor, he was his friend. He took him into his family, he made him accompany him on his extensive tours through Germany, Sweden, Norway, and Italy. In all of these countries he made warm friends amongst the celebrities of the time, all of whom admired the character, the knowledge, the spirit of the young physician and surgeon, whose enthusiasm was equaled only by his powers. He was at that time the first person on whom the anæsthetic influence of chloroform was tried in Vienna, in the amphitheatre of the surgical clinic.

The year 1848 drew near. The thunderstorm which raged over Europe reached Vienna first of all the great capitals of Europe, after Paris had fired the first revolutionary cannon. No one here, unless he have made a special study of the history of that time, can imagine the flame of enthusiasm lit up in the young hearts of the nation. If you remember the trembling excitement, the daring, the longing, the surprise, the courage, the wild enthusiasm, the holy fire of that far-off day when every brick in New York City was covered with flags, when there was no trading and cheating and note shaving in New York City, but a sacred rage in the hearts of the people, and the consciousness of great needs and the approach of great

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deeds—I speak of the day after the fall of Fort Sumter was known to have occurred—if you remember that time when the crusade for the restoration of the Union was preached on all corners and from all roofs—you have an idea of the spirit which animated and emboldened the youth of Germany and Austria. The best of the nation no longer in the lecture rooms or the shops, but on the barricades or the battlefields. The greater the previous rottenness or corruption, the more powerful the reaction in favor of political freedom and liberal institutions. The longer the sleep, the more rapid and vigorous the waking up. The young men of the universities, with their culture and enthusiasm, were the special and universal hope and pride of the masses. Whenever they meant to be so they were the leaders of the political movements. Thus it occurred that, for some time in the days of September and October, 1848, the students of Vienna, with a few older friends, most of them also connected with the university, were the masters and leaders and advisers of a vast empire. For at that time, as Paris has always been the spiritual centre of France, the soul of all Austria was in the great hall of the University of Vienna.

Is it necessary to say on which side in that contest Ernst Krackowizer was to be found? That he participated in the revolution?

No; he did not participate, he led. The example of the medical classes, the superior savant, the dexterous operator, became the example and a leader of the revolutionists. No more books and bistouries. Henceforth the sword. Conscious of what he was doing, he stood foremost among the organizers and leaders. Under the authority of General Bem he commanded an important position on the walls of Vienna. His resistance to the besieging and, at last, conquering Croats was most persistent, and when he finally gave way, and laid down his arms with his enthusiastic followers, he was amongst the last to give up opposition and hope. A few years ago I entered, a stranger, the lecture room of Prof. Spaeth, in Vienna. Reading my card, he exclaimed: “You come from New York, you know Krackowizer.” And with sparkling eyes he turned

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to his audience: "I was his lieutenant in those days. Tell us of him."

From the battlefield he returned to the clinic. Then commenced the lynching called martial law. The Austrian youth not fallen on the field of honor were hunted down by the Croats, who had saved what is called the throne. The blood of Blum, Messenhauser, and Jellinek had been shed, and still Krackowizer held out in the "Allegemeine Krankenhaus." But come they did, finally, and then at last he looked out for his safety. He escaped from Vienna, took refuge in the mountain home of his future father-in-law, fled from there over unknown parts into the Bavarian territory, thence to Frankfort, thence to Tübingen. In Tübingen he found friends. There he had been with his teacher and friend, Schuh, and had formed the acquaintance of Prof. Victor von Bruns, who still enjoys his work and well-merited reputation. Prof. Bruns made Dr. Krackowizer his clinical assistant; the university granted him the right to deliver lectures. The Government, out of fear of Austria, objected; but the university insisted upon its right to make its own appointment, in spite of the Government. Thus he remained nine months, worked and taught, formed acquaintances and friendships with the eminent men of all scientific circles, and of poets such as Uhland and Schwab. But the days of the revolution were numbered. More and more increased the power of reactionary Austria, and the government of the small kingdom, Würtemberg, was no longer able to resist Austria's demand for the extradition of Krackowizer. Timely warning came, and he fled north. In the lecture rooms of the University of Kiel his voice was heard next. But the Schleswig-Holsteinian war, nominally a people's war, actually a war of Prussia and Austria against the last remnants of the revolutionary people, drew near its end. The Austrians approached, and Krackowizer, who had some time previously declined to accept the appointment of Medical Director of the Insane Asylum in Zurich, Switzerland, fled again.

The revolution was doomed; the thrones were glued together again with the blood of the cultured, self-sacrific-

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ing youth of the country. Thousands were still hunted down; the prisons were flowing over with the intelligence of the land; high treason and lese-majesty were the passwords which delivered the flower of the martyred population into the hands of brutal beadles; hundreds of thousands sought a refuge beyond the sea—and then Krackowizer shook the dust off his feet and left for America in May, 1850. In spite of the turmoil of battlefields and constantly changing population, his name was one of the few which were still mentioned when I trod the same ground in Kiel and Rendsburg a few months afterward.

Thus Austria lost one of its best men, at a time when he and his like would have been most absolutely needed.

And what was the condition of German medicine at that time, and particularly that of medicine at Vienna?

Symptomatology and idealism had full sway in Germany and Austria in the early part of the century. The French had developed anatomical facts and principles. Laennec had discovered immortal maxims in the diagnosis of disease, not knowing, any more than the Viennese themselves, that he had had in the last century a successful predecessor in the person of the author of "*Inventa Nova*," the Austrian Auenbrugger. The only real progress in Germany, which at that time brought forth Hahnemann's theory of the psora and his wanton postulation of an axiomatic therapeutical principle, was made by the physiologists, such as Reil, Autenrieth, Meckel, Rudolphi, and Burdach. Besides these encyclopædists there were monographers, such as Tiedemann and Gmelin, with their investigations on digestion (1826); E. H. Weber, in his treatises on pulse, absorption, hearing, and sound (1834); W. Weber, with his book on the mechanics of the organs of walking; and, finally, Johannes Müller, with his universal physiology and his special investigations, histological and physiological. Chemistry also claimed prophetic and revolutionary powers; but Liebig, its principal flagbearer, was too much of an idealist and egotist to grasp the immensity of medical science and its requirements. Less than he, a great and ambitious man has seldom succeeded in accomplishing for medicine.

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About that time, when the principal progress in medicine which was accomplished all through Germany consisted in translations of and criticisms upon foreign literature, there appeared in Vienna a treatise by Prof. Carl Rokitansky on internal intestinal strangulations (1836), and in the same year an essay by Dr. Skoda on percussion. Neither was much appreciated in either Austria or Germany until, in 1841, Wunderlich took them up, and proved that not only were new facts discovered by both, but, what was more important, new principles were involved in their writings. Rokitansky studied not only the anatomical results of disease on his dissecting tables, but tried to obtain an insight into their genetic origin. At the same time, however, he was phantastic and easily carried away. The principal exaggeration on his part was the assumption of a number of pre-existing "crases," conditions of the blood—a doctrine which is still cherished by some of those who believe more in the use of glibly pronounced Greek terms than in a thorough insight into a pathological process. It is true that he must not be held responsible for the croupous, albuminous, exanthematic, fibrinous, aphthous, and puerperal crases, but the first step in that direction was his, and would have been still more detrimental if it had not been for the above exaggerations, which carried their remedy with them. For Engel and others spared neither him nor his followers, and the process of purification commenced in the very same Vienna which engendered the dangerous doctrine. Skoda was more positive and sober than Rokitansky. Guided by physiology and experimental observation, he explained the symptoms of percussion and auscultation, and with the aid of medicinal agents he tried to correct and develop his views. But, with all the reasoning powers and the immense knowledge at his command, here was his Philippi. The physiological action of medicines was not known at all; whatever we know of them at present, by experimentation and close observation, is of more recent date. Thus he saw, or appreciated, no effects. What he learned, or believed he had learned, he proclaimed with loud voice. Thus he is the original founder of that nihilism in therapeutics which, especially in the

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hands of Dietl, and still more of Hammernjk, has contributed more than anything else—against right and reason—to carry the name of the Vienna school of medicine all over the world. This nihilistic tendency, however, was soon contested and finally overcome. The medical world was soon aware that the principal claims of the Vienna school were not those based upon denying and breaking down, but upon what they built; and the names of Rokitsky, Skoda, Kolletschka, Helm, and Schuh, the original thinkers of that time, will live forever in the annals of medicine. Their time was one of revolution in both the scientific and the political world, and it was just that time in which Ernst Krackowizer studied and worked and taught in Vienna. In immediate contact with all the illustrious men around him, he participated in and criticised their results. Besides, his travels brought him into close relations with men and ideas of distant countries. Before he travelled, as early as 1841, Roser and Wunderlich, to this day a warm admirer of Krackowizer, had founded their *Journal of Physiological Medicine*, on the principle that pathology was to be considered as nothing but the physiology of the sick. They were followed, in 1842, by Henle and Pfeuffer's *Journal for Rational Medicine*, and in 1844, by the *Prague Quarterly for Practical Medicine*. While these magazines flourished, the old journals gave way before the new era, and no one was more anxious and fitted to grasp the results of universal observations and discoveries than Krackowizer. He soon knew that the Vienna school was but the offspring of the French school founded by Laennec, only more sober, established on better-observed facts, and more consistently led by principles. He was soon aware, and remained so during his life, that no single school of medicine, no single doctrine in medicine, can find the stone of the philosopher. There is no such thing as a "school" in exact sciences, like physics, mathematics, or astronomy. The more scientific medicine has become, the more have the claims of systems and schools exhibited their ridiculous weakness. He recognized no exclusive claim of "solidar" or "humoral" pathology, no exclusive rights on the part of physiology or chemistry,

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or a therapeutical system, or of the new discoveries in the pathology of the blood, or nerves, or cells; nor did he see a universal boon in the increase of diagnostic perfection, or in the results of experimental therapeutics alone. He knew through his whole career that man cannot be subsumed under the definitions of a school; human sufferings cannot be measured and explained by always the same methods, or relieved by the same means. Nor did he ever stoop to the golden calf of nihilism and condemn the use of medicinal agents. Medicine was, to him, entitled to be both an exact science and a social and humane institution. While he studied and recognized man as a link of all creation, he revered medical science as comprehensively connected with all scientific facts, no matter where found and whence collected. Thus, while he was eminently a humane and a practical man, in order to be so he was erudite, in the full meaning of the word. It was this erudition of his which proved one of the principal charms in his medical career. He was conversant with medical science in almost all its branches. Thus every word of his, when he participated in a discussion, was fraught with solid contents. In his views he was universal. He was just as removed from looking on medicine as a business as on a tissue of conjectures or possibilities, or a merely sentimental vocation. He was as well acquainted with the history of medicine as with the anatomical and physiological points of a diagnosis. For the embryology of medical science was of as much importance to him as that of the human being. He thought just as little of men who did not care for the fathers of medicine as he would have thought of an American who did not know the fathers of his country. For George Washington and Jefferson are of no vaster importance, politically, in the history of the world than Harvey or Bell in that of medicine.

When Dr. Krackowizer had to flee from Vienna and leave Germany, the Vienna school was in the zenith of its reputation. The illustrious names of Rokitansky, Skoda, Helm, Schuh, Jaeger were household words among the medical men all over the globe. His loss was not the only one; a number of young men disappeared with him, some

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never to be heard of again, some in distant countries. The blow received by the Vienna school in being deprived of the best of its young followers it never outlived. Go to Vienna now and ask for illustrious names. With very few exceptions you have again Rokitansky, and Skoda, and Hebra. The legitimate successor of Schuh would have been Krackowizer. In him there was the grasp of intellect and the breadth of character which make the equal of the greatest, and the admiration of enthusiastic pupils. The other great surgical chair had to be filled by calling Billroth from a university of Switzerland; nor could the chair of theory and practice be filled by an Austrian when its occupant died. They had to call Oppolzer from Leipzig, and, after his death, Bamberger from Würzburg. Many of the young men "who did not know of the Moses" of the Vienna school, except from hearsay, who at the present time teach audiences and give private instruction, are of a different character. Their great merit is to teach some younger foreigners who go to Vienna for the purpose of brushing up, as the phrase goes, or of returning, after a few months' drilling, as eminent specialists in some "ology." That is in part the spirit of the University of Vienna, that the relic of the Titans of the old Vienna school—neither the spirit of the "Aula," revolutionary in politics and science, nor that of the old guard, a few of whom, however, twenty-seven years after, are still at work amongst them. It is with unfeigned admiration that I here mention the fact that, but lately, old, brave Rokitansky has published a large work on the congenital defects of the septa of the heart, in his old style and spirit. But the glory of old Vienna has passed away with its founders since the wave of political reaction swallowed its best hopes.

The spiteful persecution has emasculated its science, as it has politics. Austria, as it had to import the men of science, had also to import a chancellor of the empire, a Protestant at that, from outside; and the main political life developed, since the young and talented had to flee for their lives or died in the dungeons, is that of discord and envy. The result is the same always and everywhere.

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Thus Prussian politics also are still at the mercy of one man, who does not know how to solve the question of principle involved in the battle between Church and State any better than by arbitrary police measures, because his only opponents are, with few exceptions, those same names which belonged to middle-aged men nearly thirty years ago. Such is the curse of driving into death or exile the flower of the nation. But the stones rejected by the builders have become corner-stones somewhere else. For two hundred years European thrones were always saved, European communities were always deprived, in the interest of the cultivation and culture of a new continent.

Dr. Krackowizer arrived in New York on the 28th of June, 1850. He settled in Williamsburg, where he was married in 1851, and engaged in a rapidly increasing practice until he removed to New York in the autumn of 1857. Here he resided a long time at 49 Amity street, the last twelve years at 16 West 12th street. His new office at 138 West 34th street he arranged completely, without ever being able to move into it. The medical men of Brooklyn soon learned the calibre of the man, and selected him for one of the surgical places in the Brooklyn City Hospital. There he served until his increasing engagements in New York prevented him from attending to his duties as only he knew how to serve. Then he resigned, and never have the Brooklyn surgeons parted with a colleague more unwillingly than at that time. He, however, was none of those who stick to a place or cling to an honor without repaying for it with more than a full equivalent of work.

On the 1st of February, 1852, he joined Drs. von Roth and Herezka in the publication of the *New York Medical Monthly* (*New Yorker Medicinische Monatsschrift*), which was discontinued after a year, and forms a handsome volume of 388 pages. It was published in the German language, and was meant to circulate among the German physicians of this country and Europe. The cover of each number explains part of the insufficient pecuniary success, which may have been

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one of the causes of its being discontinued. It has an announcement as follows: "Advertisements of booksellers, apothecaries, dentists, instrument makers, bandagists, and importers of instruments and bandages, and of everything connected with medicine, and agreeing *with the dignity of our journal*, will be admitted." This is a condition which I have not seen printed since. The journal contained original papers, histories of important cases, clinical observations, extracts, reviews, and criticisms, most of them of a superior order. Dr. Krackowizer's principal contributions were (page 21), "History of a Tumor Vasculosus on the Occiput of a child"; "Improvement of the Exarticulation in the Ankle Joint, with Resection of the Malleoli according to Syme" (page 58); "Staphylo-rhaphy" (page 120); "Detmold's Treatment of Pes Valgus" (page 142); "The Modern Views of Syphilis" (page 257); "Contributions to the Diagnosis of Hernia" (page 343). Amongst the clinical reports are those of cases treated in the clinics of Parker, Van Buren, Detmold, and others. The spirit of the journal may best be judged by the contents of a letter addressed to the German profession of Europe in the first number. It warns against the tendency, at that time prevailing in Europe, of underrating the position and merits of the American profession. While admitting the fact of our inferior opportunities and advantages, and the further fact that most of our colleges were private, and not always first-class, institutions, it is urged that the very competition of the colleges has a tendency to improve their status. The letter closes as follows: "I have no doubt we shall soon have State universities, which will have nothing like European compulsion, but will be free institutions for the most advanced instruction. In this, again, the natural self-development of the American spirit exhibits itself. It begins at the base and culminates above. The political powers in Europe were interested in having ignorant masses and a few learned men; for that reason the universities were older than elementary schools. These latter had great pains in getting started. The universities organized elementary and higher schools on their own system and

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perverse principles. But in America people thought first of initiating a general popular instruction; they cared not so much for learned individuals as for a cultured people."

What has been quoted explains most of Krackowizer's position in our midst. His appreciation of our institutions and maxims was eminently that of a philosopher who sees clearly and judges wisely. He felt that the distance of the two hemispheres had to be abolished by mutual understanding and esteem, and thus the journal he aided in starting and editing was published in the German language. Only such a reason could be found valid enough for that course. It is true he was eminently a German, his education and memories were German; no country but Germany could have, at that time, produced the thorough savant, the enthusiastic reformer, the manly spokesman of truth and right. In his family, and with his most intimate friends, he spoke German; in the interest of the preservation of the German language as an element of education in our public schools he was very active; but he was, as he was universal in his knowledge, cosmopolitan in principle and rational in politics. From the time he landed here, to his death, he was an American, and the language of the country that which he considered the proper mode of communication with the people and the profession. All of us know how well and concisely and tersely he knew how to use it. And no man has used it to better advantage, not only to communicate his knowledge and thought, but also to connect the apparently incongruous elements of which the profession is composed in a city which is a conglomerate of immigrants in the first, second, or third generations, and which, in many respects, is as much European as it is American. No man was ever more impressed with this fact, and with the other fact, also, that the American, particularly the New York profession, although mostly speaking the English language only, is eminently cosmopolitan. No man more than he appreciated so keenly the readiness with which foreigners, particularly Germans, were received by the whole and the individuals in the profession. In fact, I remember the time very well, and that time is not quite passed by yet,

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when the fact alone of being a German, supposed to come imbued with German knowledge and thought, sufficed to place a new-comer in the front ranks, honored for the sake, not of himself perhaps, but of the new ideas emanating from the great thinkers of his distant native land. And nobody complained more than he of the facility with which, sometimes, arrogance, and ignorance, when presented in German, commanded temporary respect or forbearance; and nobody enjoyed more than he the frequent visits of young Americans on the other side of the Atlantic, where they learned the hard foreign dialect, studied at the very fountains, and returned in a more cosmopolitan spirit and with ripened judgment of things and men. Thus he was both a German and an American; more of a German thinker than he might have become in Germany, inasmuch as the mental food he enjoyed here was of a different character; more of an American than many Americans, because American empireism and practical ingenuity was in him rendered more humane and sacred by his German mode of reasoning and reducing to principles. In this mixture of the two great qualities of the two nations he saw the glory of American future. Philosopher as he was, he saw the two nationalities happily blended into one, their mode of feeling and thinking modified, fortified in the interest of human progress. Nor was he, with his statesmanlike views applied to small things and great alike, shaken in his friendly and optimistic hopes for the developement of both the profession and the politics of America. What was it to him, who never sought an honor for the honor's sake, that the parading with names of a college for young gentlemen instead of a school for boys, or emporium for a store, a lyceum for a society, the strutting with a professional title, the parading of endless titles over worthless compilations, was unrepubli- can in principle as it was ridiculous in practice? What to him that our custom here was less republican than those of learned societies in monarchical Europe, where men speak of and to each other as Mr. Virchow, and Mr. Rokitansky, and Mr. Broca? In all these exaggerations he saw but the outgrowth of an inexperienced ambition which aims high, and

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an effervescence of activity which has not settled down in quiet thinking and hard working. Nor, as he would always compare parts with the whole, did he believe that in the course of development our republican principles and institutions would suffer, although men would revel in "Captain" and "General," in "Honorable" and "Excellency," in European Court decorations, or in intimacies with doubtful counts or emperors.

Such was the man who moved to New York in 1857—eighteen years ago. Since that time he has been prominently before the profession. He belonged to many societies, was an officeholder in many—president in the Pathological. The Medical Society of the County of New York, the Academy of Medicine, the Pathological Society, the Medical Library and Journal Association, the New York Physicians' Mutual Aid Association, the New York Society for the Relief of Widows and Orphans of Medical Men, the New York Public Health Association, the American Medical Association, counted him on their lists of members until his death. For none did he work more than for the Pathological Society and this Academy. Year after year, in former times, he was a regular visitor and contributor in the former, and in the latter he participated in the discussions frequently. It was he who opened the discussion on pyæmia many years ago; it was he, again, who contributed, by his sagacity and urbanity, much to the success of the Committee of Ethics through many years, and was one of the most active members of the Committee on Ways and Means. This hall owes part of its existence to his efforts, his counsel, his pecuniary contribution. He will long be missed wherever he worked, for he always worked well and wisely and successfully.

Besides the work in the societies, much, or rather more, was given to public institutions. He was one of the surgeons of the German Dispensary, and later the German Hospital, of the Mount Sinai Hospital, the New York Hospital, and a short time, in 1874 and 1875, in Bellevue. Here he resigned very soon. The manner in which he did resign, and the reason why, are fresh in our memories, and there is not a man here, nor outside, whose respect

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for the upright and courageous man of principles has not been increased since. He was the ideal "knight, without fear and without reproach." The confidence reposed in him was never shaken. The best men consider it both an honor and a pleasure to be connected with him, and the Government sought his services repeatedly. He served during the war as Special Inspector of Hospitals, and was twice at the seat of war when eminent surgical aid was needed and solicited.

All of this is well known. There is one point in his New York history, however, which I ought to allude to. At the same time that Dr. Krackowizer emigrated to America a number of German physicians left their country. Some were young; some in advanced years; some were unknown; some had left places of distinction and honor; some had been driven away for their participation in the revolutions; some followed, almost unconsciously, the new migration of peoples which began at that time. Many of them remained in New York. It would not be difficult to mention quite a number of distinguished men amongst them, some of them now dead, a good many in our midst. Education and language soon joined them, or part of them. The German Dispensary was opened by them in 1858 in Canal street. It was afterward in Third street, and is at the present time in St. Mark's Place. It proved a successful institution from the start, both for the suffering public and the attending physicians and surgeons. The leading spirit of the institution and the scientific reunions was Dr. Krackowizer. Both his superior character and intellect placed him, not in the first rank, but at the head of all those on whom he, in his modesty, looked as his equals. There is none, there was none, who ever denied or grudged him that position. As in private practice, so in dispensary practice, he was the counsellor of all. In the scientific circles he was the principal thinker and the best speaker. When the German Hospital was contemplated, the physicians of the Dispensary were offered its medical administration. At that time, again, and when it was opened in 1869, he was the soul, the brain, the hand of all. He worked, he spoke, he begged for it, he administered. Never

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has a public institution of that kind owed more to the exertions of one man. For what he has done the public admired him. His colleagues adored him. His presence warmed and stimulated them. He was their pride and joy. They felt safe when he co-operated with them or worked for them, and a certain sense of ease and comfort was felt by the best of them as they were aware that they had in him a friend, a spokesman, a representative. In fact, the feeling gained ground that our position in the American profession was secured. For Krackowizer was one of us.

As he was in public, so in private. He had time for everything, for everybody. A young man wanted his assistance in a tenement house—he had it. A colleague required his presence, paid, or more frequently unpaid, at an operation—he was there. He was wanted for an extemporized meeting—he was first in attendance. Never man crowded more work into twenty-four hours. In consultations he was absolutely punctual, generous, cautious. Nobody knew how to sustain a young practitioner better while not neglecting his duties to the patient. Nobody has, by word and deed, done more to improve the relations of physician and public and to increase the respect of the public for the profession. With nobody would young and old consult in preference to him. The larger part of surgical consultations amongst the Germans, and much of the natives, was his, and the best pathologists among his older friends have willingly admitted that they, in medical cases also, never had a clearer insight, more unbiassed judgment, and often new ideas. There may be more brilliant operators amongst his surgical colleagues than he was, but not a more solid, more universal, more modest, more useful man.

He has published but very little. The “*nonum prematur in annum*” has lasted a little too long. An immense learning and thinking has been buried in that quiet grave in Sing Sing. An instinctive modesty, and a positive horror of a great part of our daily medical food, may have been, besides his constant overwork, the principal reason why he always refused to write. He had a great

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respect for the medical profession, and felt, perhaps, averse to competing with the numerous original articles concocted from some old text books, and with the text books compiled by young men with an immense industry extending over three months, more or less, at the order of an enterprising publisher, from five previous text books, and spiced with an immense "experience in private and consultation practice" extending over several years since graduation. He did not bid for reputation, nor for practice, least of all a hot-house reputation; reputation followed him and practice sought him.

Amongst his case presented to the Pathological Society I mention a few:

Double Morbus Coxarius. Extensive ulceration of bone without crepitus, or marked general or local symptoms. Being the history of a specimen presented to the New York Pathological Society, November 27, 1861 (*Medical Record*, May 31st, 1862, page 301). The following sentences will be deemed worthy of remembering: "There may be extensive ulceration of bone in the joint, and yet no crepitus." "There may be very great distortion in the joint, and yet the local, as well as the general, symptoms may be very mild."

A case of complete occlusion of the gut, presented to the New York Pathological Society on April 23d, 1862 (*Medical Record*, June 7th, 1862). It is the most remarkable case on record of occlusion in the small intestine at the upper end of ileum. The child lived from March 16th to April 21st—five weeks. It passed urine normally; was fed on milk and fennel tea, the other babe (twin) being nursed. It retained food, grew restless on every second day after vomiting, and vomited on every fourth day only. There was no peritonitis, the small intestines were dilated so as to fill the abdominal cavity. The intestines below were very small. The glands belonging to the latter portion were but little developed. Between the dilated upper portion of the intestinal tract and the lower contracted part was a short filament of connective tissue.

Case of fibro-cystic tumor of the uterus, with an elaborate history. Same date and place.

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Cirroid aneurism of temporal and post-auricular arteries in a living subject. Pathological Society, September 11th, 1861 (*Medical Record*, October 5th, 1861).

Necrosis of head of femur, with the following remark: "A good deal of harm can be done by operating too early, and an equal amount by postponement. The proper time to choose for such a proceeding is when the sequestrum is merely embedded in the soft granulations which sprout out of the involucrum." Pathological Society, September 25th, 1861 (*Medical Record*, October 12th, 1861).

Tumor of neck composed of an aggregation of sebaceous follicles. Same place and date.

Cystic hygroma from the right axilla of a girl of three years. Pathological Society, October 23d, 1861 (*Medical Record*, January 22d, 1862).

Osteo-sarcoma of superior maxilla. Same place and date.

Mammary tumors (Paget) in a woman of twenty-six years, of three years' standing.

Aneurism of subclavian artery, with exact observations of the pupils during and after the attacks of asphyxia, and remarks upon the irritation and compression of sympathetic nerve of both sides, in its relation to the dilatation of the pupils. Pathological Society, March 12th, 1862 (*Medical Record*, April 19th, 1862).

Two neuromata at the end of an amputated forearm. The principal nerves of the extremity were found to terminate in them.

Resection of shoulder joint, with caries of head down to anatomical and surgical neck.

Resection of hip joint, head and acetabulum. Pathological Society, March 28th, 1866 (*Medical Record*, 1866, page 436).

Uterus extirpated, being mistaken for ovarian tumor. Pathological Society, June 27th, 1867 (*Medical Record*, August 15th, 1867), which is a case of gastro-hysterotomy, deplored as a fearful mistake by Krackowizer, while another surgeon has lately recommended a similar operation for curative purposes.

Before the Surgical Section of this Academy of

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Medicine—meeting of April 25th, 1862 (*Medical Record*, June 28th, 1862)—Dr. Krackowizer made extensive remarks, part of which follow briefly: *Tracheotomy* has been performed two hundred and fifty times in New York and Brooklyn, oftener than in Great Britain and Ireland, and oftener than in Germany. Dr. W. von Roth has operated forty-eight times, being outranked in the number of his operations by only three or four Paris surgeons. Dr. Krackowizer reported thirty-one cases of his own and ten in which he had assisted. He warned against giving too positive promises in regard to permanent or even temporary relief, for croup symptoms and suffocation frequently return when the disease progresses downward. Anæsthesia is a great aid in the operation, and not more dangerous than in other operations. Dr. Voss was of the same opinion. Dr. von Roth used chloroform in tracheotomy the first time on June 14th, 1854. Dr. Snow only has preceded him. Spasm is not a complication of the croup dyspnœa, for this symptom is not improved by anæsthesia. In cases where anæsthesia is established by carbonic acid poisoning, no anæsthetic is required. These cases are very rare. Where no anæsthetic is used there is more struggle and more dyspnœa.

In the discussion in the Medical Society of the County of New York, April 3d, 1871, upon abscesses of the processus vermiformis, Dr. Krackowizer related the case of a young man who had repeated abscesses until a seed of a pear or apple was discharged; also the case of a boy who had a cæovesical fistula, and discharged an *ascaris lumbricoides* through the urethra; finally, that of an idiotic boy, of seven years, who had always been on milk diet. Once in his life he was given some strawberries; some time after he died of perforation of the vermiform process. Two concretions were found, each of which contained a strawberry seed. In connection with this subject he then made the following statement, which I repeat in full, because I think it of very great importance, and positively correct:

“A point concerning the etiology of the affection has often occurred to me. Seeking the first of the series of pathological changes that led finally to the fatal result,

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we frequently find in the post-mortem examination of these cases not only the recent exudations which had walled up the matter until finally it broke through them into the peritoneal cavity; not only the ulceration and perforation of the appendix, but, besides these, adhesions apparently much older, binding down the appendix to the surrounding parts. My impression is that these first adhesions of the appendix, by their traction, render patulous its opening into the cæcum, and thus expose it to intrusion of seeds or other foreign bodies, about which form the fæcal concretions which lead to ulceration. This point seems to me worthy of further investigation, to ascertain whether or not it is customary to find such adhesions of older date than the ulcerative process."

On May 1st he wound up with the subject by presenting a specimen, accompanied with one of his well-prepared and brilliant histories.

In the *Medical Record* of June 1st, 1867, he published "an interesting case of vesico-intestinal fistula, with discharge of *ascaris lumbricoides* per urethram." (Remarks made before the New York Pathological Society, March 13th, 1867.) The case was complicated with Bright's disease, ulceration of the bladder, and pyæmia. The closing remarks are as follows: "As objects of surgical interference, cases of intestino-vesical fistula must be divided into two distinct groups. The first group, comprising cases in which the fistula exists between the bladder and the rectum, and can be seen and reached, permit of surgical treatment. Of the second class, where the fistula exists between the bladder and any section of the intestines, down to that part of the rectum which already receives a peritoneal investment, it must be said that it is beyond the reach of art."

In the Transactions of the Medical Society of the State of New York for 1873, page 13, there is a report on the discussion upon Dr. Gouley's paper on the median operation for stone. Dr. Krackowizer contributed a masterly extemporaneous report of two cases. In next year's Transactions, 1874, page 168, there is a paper of his on "Three Cases of Perineal Lithotripsy." Here is the clear and concise statement of the man who never said a word too

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much: "It differs from, and is superior to, median lithotomy, so-called, mainly for two reasons: First, in that it dilates the wound track, the prostatic portion, and the neck of the bladder in a more gentle and gradual manner than it is possible to do with the fingers; and second, that it renounces beforehand the attempt at extracting a stone beyond the diameter of three-quarters of an inch, considering that the track established by median lithotomy cannot be stretched safely beyond the diameter of one inch without exposing the patient to the immediate and subsequent dangers of tearing and contusing the parts which constitute the way for extracting the stone."

This must suffice. But I should not do justice to the man if I did not emphasize the fact that he was more than a medical man only. Whatever the attribute of man, that he was; at the same time *manly and humane*. His life has been spent in learning and doing the right. Man was to him not only an interesting subject in the anatomical theatre or on the operating table, but in individual and political and social life. Never did he cease to take an active interest in social questions and in politics. In him politics assumed again the purity which even we know how to appreciate and admire in the fathers of this country of ours. He did not drift into politics; he was a born politician, for he lived, soul and heart, with the people, its development, growth, efforts, its happiness and unhappiness. Nourished upon the classics, he was a republican of old. No oppression or injustice found grace before his eyes. Thus he was a freesoiler, thus he was an abolitionist; no matter whether the chains to be broken were those of color, or religion, or sex. Whatever were his convictions, he transformed them into deeds. Force and action were with him identical. He supported Frémont, supported Lincoln, supported energetically the war for the Union. But never was he one-sided, or his eyes blinded by passion. When the waves of political fury and rancor dashed as far as into this Academy of Medicine, he was one of a very few who strenuously resisted the expulsion, for alleged rebel sympathies, of a Southern-born member whose name has since become a household word in two hemispheres. And when the war terminated

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he was one of the far-seeing politicians of the better class who, while severely reprimanding the offensive course taken by Andrew Johnson, were in favor of dealing with the conquered South on an unmilitary basis. He was one of those who, during the first administration of Grant, hoped for the speedy disorganization of the old political parties, either of them having outlived the conditions of their existence, and for new frames in which the political development of the country could find fair play. Thus, as he had supported Grant against rebellion, he supported liberalism against Grant. He was one of the first who cut loose from the Republican party to become what nowadays is called the independent voter. He felt assured that the American people would not be guided and gagged much longer by party ties, holding that the party is only the means of executing the desires and wants of the community, and not an aim, an entity in itself. Thus he was a supporter of Greeley in the last presidential election rather than Grant, and an independent voter, as he was an independent thinker and man to the very last.

On the field of politics, as on others, places and honors sought him. In the majority of campaigns he was at the head of large organizations; in the Committee of Seventy and the Council of Political Reform he was an esteemed member. To whatever he directed his attention, the attention of the public was directed to him. Wherever his services were required he gave them, no matter whether in rank or file. Let me quote here what Plutarch says of one of the most beautiful specimens of Hellenic spirit and valor—Aristides: "Admirable was the equanimity of the man in all changes of his public relations. He never prided himself on account of horrors; he remained quiet and self-possessed on provocations and insults. He always deemed himself under obligations to his country, and declared to owe it the same zeal, and to work for it without either pecuniary advantage, or honor, or appreciation."

I have mentioned the name of the good and great ancient with whom all my lifetime I have compared him, Aristides. If there was a man amongst us blessed with true Hellenic spirit, it was Krackowizer. Of his public character I have spoken. It was, however, only a repetition of his

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private character. No fear ever shook him, no bribe ever tempted him. He was incorruptible even by friendship, or love, or desire. The applause of the masses never impressed him; his own conscience was his guide and his adviser. At the same time he was modest almost to excess. He never spoke of what he had done. What he could do in a good cause, he did. He would often ask for advice where he did not require it. What he did, he did fully and earnestly. One of his last sentences was, "Never do what does not fully correspond with its purpose."* There was but one man in regard to whom he judged sternly, viz., himself. In regard to others he was always mild, excusing and explaining doubtful traits of character or actions. Only once in my life have I heard him denounce a man in bitter words, and in that case he proved but too right at last. He was great enough to have enemies, but he enjoyed the respect of friends and enemies equally. His character was undoubted, his universality acknowledged, his morals, in its broadest sense, unexceptional. Humanity was his leading star. On its altar he has deposited a fortune, health, and finally life. He was great as a physician, but his principal greatness he has obtained as a man in whom many powers were happily blended in mild harmony. Much had been given to him, much was demanded of him, and he gave it all. He will have a monument. That monument will be the ever-increasing knowledge of the vacancy he left in our midst.

* "Man soll nichts thun was seinem Zwecke nicht ganz entspricht."

RESOLUTIONS PASSED ON THE DEATH OF DR. ERNST KRACKOWIZER BY THE MEDICAL BOARD OF MOUNT SINAI HOSPITAL

THE Medical Board of Mount Sinai Hospital met at the residence of the President, Dr. Willard Parker, 41 East 12th Street, New York, October 1st, 1875, when the following report was read and adopted:

The Medical Board of Mount Sinai Hospital meet tonight for the purpose of giving expression to their deep

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sorrow at the death of Dr. Ernst Krackowizer. A few resolutions of any nature whatsoever would not suffice to do justice to the memory of one on whom the most erudite and experienced surgeons of the country look as their equal; who was recognized as the superior pathologist by the foremost men of the American profession; admired and called in council by all for his learning, skill, sound judgment, philosophical profoundness, and urbanity of manner; whose only ambition was incorruptible probity for himself and the elevation of the profession and mankind in general, and who, therefore, participated and led in every effort—professional, social, and political—in behalf of his exalted views and aims. In their prosecution he spent his strength and health, equally with his means, while his generosity was surpassed only by his modesty.

When such a man is removed from his sphere of usefulness the universal feeling is that of a universal calamity. As his immediate colleagues, however, we deem it proper to simply express the deep sense of our bereavement. The Mount Sinai Hospital loses in Dr. Krackowizer a most zealous and successful surgeon and counsellor, whose services have been of invaluable importance to the Hospital. Both the Medical Board and the suffering sick will always remember them with both gratitude and sadness; and therefore the Medical Board, knowing what they have lost themselves, avail themselves of this sad opportunity to express to the family of the deceased their heartfelt sympathy with their loss, which cannot possibly be either repaired or forgotten.

A. JACOBI,
Chairman of the Committee.

RESOLUTIONS BY THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

THE committee appointed to prepare resolutions in regard to the death of Dr. Krackowizer respectfully submit the following:

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Resolved, That in the death of Dr. Krackowizer this Society has sustained the loss of a member who, by the interest he always manifested in its proceedings, contributed in no small degree to its prosperity.

Resolved, That having obtained foremost rank in our profession by his great learning, unsurpassed skill, honorable bearing to his associates, and unselfish devotion of time and money to the interest of the healing art and its followers, we owe to his memory a debt of gratitude which cannot be estimated.

Resolved, That the distinguished position which he, as a citizen of his adopted country, had secured among public men by his sound judgment and ardent patriotism, called for and received the unqualified commendation of all classes in the community.

Resolved, That his bright example as a physician, a scholar, and a citizen should ever be held as a model for imitation by all who seek to advance professional or secular interests.

Resolved, That a copy of these resolutions, signed by the President and Secretary, be sent to the family of the deceased and to the medical journals.

ELLSWORTH ELIOT, M. D.,
HERMANN GULEKE, M. D.,
A. JACOBI, M. D.

ADDRESS AT FAREWELL DINNER TO MR. BAYARD TAYLOR

Mr. Bayard Taylor:

MINE is the privilege of speaking this evening on behalf of the present assembly. Will you, after having attended many a gathering held in your honor, and listened to innumerable speeches made in your praise, make a similar sacrifice for us: for a sacrifice it must indeed be. May you draw but this conclusion from the great number of public demonstrations of this kind, that the satisfaction over your appointment as America's representative to the German people and the German government was universal; that even the Senate, to which men of high character, men of intellect, men free from party prejudice are an abomination, was forced unanimously to confirm your appointment; that the entire Press unanimously expressed its approval when your name was announced; that the mass of the people sincerely sympathizes with the honor shown you.

Shall I then congratulate you? I certainly do congratulate you because of the general joyous recognition of the people, which elevates the best among men to high places. We congratulate you because your high outward rank has not endangered your independence. No solicitation on your part, no bragging about your previous services, no party clamor, no wire-pulling, has brought you into your prominent office. We congratulate you because you were chosen not only by general vote, but because of a general need. We congratulate you, as you yourself do, on the fact that, being removed from the wearing business of everyday life and pursuits, you will find leisure for labors congenial both to your inclinations and to your intellectual equipment; and above all because the opportunity will be granted you to realize the self-appointed task of your mature life, the task, namely, of translating and revising

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the works of Goethe and thus planting the flower of the German spirit in the cosmopolitan Anglo-Saxon soil so receptive of constant modification and improvement.

So far it is you whom we congratulate. We congratulate ourselves mostly, however, and also the two countries which are represented by the present assembly. We who belong to the class of those who can leave the German Empire but not the German spirit behind us, know how to appreciate the great blessing that has accrued to the two great nations, America and Germany, from your activity and that of your co-workers. Twenty years ago the number of those elect, who were conversant with the German literature and knew how to value it, was extremely small. Since then great changes have taken place. No small share of the credit for revealing to English-speaking Americans the German spirit and culture, as expressed in its literature, is to be ascribed to you.

To-day the English language is no stranger in Germany, nor is the German language and literature unfamiliar in America. In the same measure as increased and accelerated means of communication have decreased distances, understanding of the language and spirit of both peoples has increased, a constant interchange has taken place, and both countries have become enriched thereby.

The finest fruit of every international exchange of this kind ripens from the access thus gained to the thought of the greatest masters. Man's genius is not local, not national, not ephemeral. Homer, Dante, Shakespeare, Goethe, Schiller, live a thousand-fold, omnipotent, omnipresent life. To make them accessible to other countries, to make them intelligible in other languages, is to render humanity a service so great as to be surpassed only by the actual creation of works of genius. To make accessible and intelligible the genius of a foreign poet is a task which must be undertaken by him whose own brow has been touched by the divine spark of poesy. To translate *Hiawatha* adequately no less a person responded to the call than Ferdinand Freiligrath. And a real recasting of the greatest poetic work of Goethe and of all time had to wait for Bayard Taylor.

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In other respects, however, our chief good wishes concern the land of our new home, the land of refuge from all the regions of the globe. We congratulate the country which sends as its representative to a distant land a man who is at once a son of the people and an aristocrat of intellect and of heart. In both these respects are you the real representative of Americanism as the future must and undoubtedly will develop it. Only apparently does the future seem far removed. For the development of great masses cannot proceed with regularity, smoothness, and in a manner pleasing to the eye. The Ocean throws up his mighty billows. His surface looks more turbid than it is, and even water clear as crystal casts up sand.

The people, Mr. Taylor, count you of that class of men absolutely true to convictions and withal eminently capable. But this is not all. Whosoever has read every part of your works looks upon your appointment to Germany as a victory of the intellectual over the vulgar. To the mass of the people you are at once the intellectual worker and the prophet, just as to the ancients the poet was seer, sage, and priest all in one. In you the multitude looks for the realization of numerous popular demands and aspirations. On you, on men like you, the people build their future. We send you to Germany, not because we believe you to be a great diplomat in the ordinary sense of the word, but because we are of the opinion that the intellectually superior man, the learned man, the poet, makes a better representative for us than one who has made politics and diplomacy his calling.

Our country's politics and foreign diplomacy are simple enough. Geographically we lead an isolated existence. Canada's center of gravity sinks peacefully and gradually in the direction of the heart of the United States, and we may hope that in the next century Mexico and Cuba will not be called upon to derange our national digestion. Borderline quarrels there are none to settle. We are not a conquering power, we have enough trouble sweeping our own doorstep and are engaged in a strenuously peaceful development which has nothing to do with our relations to Europe. Our last difficulties with England, arising at the

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time of our Civil War, have been adjusted by arbitration. The quarrels in Europe and Asia do not concern us politically. The diplomacy of a republic should be simple. Healthful common sense, uprightness, consistency, is the best policy of a self-governing people as it is of a self-relying individual. A regard for one's personal interest, as long as it does not infringe upon the rights of another, is very well compatible with the principles of humanity and honor; and quite frequently the interests of different individuals and nations are identical. National relations, therefore, ought to be regulated, nay, they can be regulated according to the same principles, the same usages, which are effective in personal dealings and in the conflict of interests in the case of individuals.

In our day this conflict of interests of large masses of people is in the process of transformation. The one great metamorphosis in the life of European states and communities consists in the disappearance of absolutism and in the steadily increasing participation of the masses, or at least of a certain mass of the people, in the whole, or at least in a part of the government. To be sure even in this we cannot yet discern a complete victory of the people over "personal government." For we know pretty well, for instance, what it means, when Russia has not yet decided upon a measure concerning the immediate future. It means that Gortchakoff has not yet assembled the fifty thousand living machines required for the investment of the fortress of Gallipoli. We also know what it means or what it does not mean when we hear that "Germany is exerting itself to settle matters," or that "Germany is uneasy in the affairs of Russia against Turkey, Austria and England." It need mean nothing else than that in the first instance His Serene Highness tries to apply the thumbscrews, and in the second case has, perhaps, spoiled his stomach. We know that very well indeed. But we know also that with increasing industry, insight, and civilization, and with the gentle assistance of the events of 1848, the participation of the governed in the government has become a fact in Germany also, that the best men in the nation take an active part in the political development,

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and that the so-called plain man has learned to know higher interests, to develop higher activity, than that of cowering before the tax collector and the gendarme. Since 1866 and 1870 the fact has been recognized even in Germany that the German dreamer awoke, the German thinker became practical, and the German Michel became transformed into Michael. The simpleton into a self-respecting person. The gradual melting together of the German tribes is so much more an economic and intellectual advance, because hand in hand with it goes the fact that all these years educated men, literary men, and thinkers have been fighting on the battlefield and planning in the council chambers of the nations. Politics are becoming the business of all classes. Germany's development is towards freedom. No matter how slow the progress of the gradual transformation will be, the direction of this transformation is towards a republic. It took millions of years for the gradual transformation of the Darwinian ape into man; it should not take so long for man to become a man. And it will not.

The second great change consists in the rapid disappearance of peculiar national traits. In this I see the best pledge of a lasting "peace on earth, good will to men"; in this I see a preparation for the union of nations, and also the only possibility of a healthy basis for the improvement of civic and social conditions. Only let us not forget that the world's history cannot be compressed in the space of a single human life, of our own generation.

The participation of the best men, the simplification of interests, the recession of personal arbitrary absolutism, will stamp themselves also on the intercourse of nations and on diplomacy. No longer will star-decorated military men and served-up, would-be diplomats represent nations; neither violence nor trickery will be of any use or consequence. There will be no more need of a Menzikoff and an Ignatieff to determine the history of nations. The ambassadors between two sister nations will be the Franklins, the Motleys, the Bancrofts, the Lowells, and the Marshes.

To-day our ambassador is Bayard Taylor. Our ambas-

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sador he is indeed in a double sense. For the whole people of the United States unanimously applauded his nomination, and so did we as a part of that people.

There is one other man whom we of German birth could have entrusted to represent our new home among our brothers of the fatherland, and that man is Carl Schurz.

This festivity is not a common one in this country. It is in a measure unique, at once democratic and aristocratic, because originally it was exclusively a student affair. The "kommers" is the only form in which the bubbling spirit of youth, the intensely felt, police-repressed love of fatherland, the hopes for the future, could once find an outlet. Much of what one dared but hint at, many things the yearning and hope for which cast our youth into prison and death, have since then become realities. The substance of the youthful hopes and aspirations has indeed changed, but the tradition has remained and the old enthusiasm still clings to the form. When you arrive at our former home which you so well know, to our young and old fellow-militants, will you, our ambassador, tell them that the former Germans, expatriated either through persecution or voluntarily, have indeed become Americans but remained German. But you will please also add that no one holds this tie dearer and regards it as more natural than the enlightened American who understands how to value the German spirit and German culture. Please also let them know, Mr. Ambassador, that what we, old comrades, have left behind us, is kept fresh in our memories. For we have had the good fortune to escape Philistinism. Assure our old German comrades that the keen republican air, the active participation in the storm and stress of public life, the perpetual contact with numerous people and languages, have, in spite of hard work, fatigue, and cares, in spite of success or failure, in spite of gray hairs or bald heads, prevented the growth of the Philistine spirit. Say to them also that the very "Philisterium" of the German-Americans is not composed of Philistines. And this is the effect of the political and social atmosphere which we breathe, of the common interests which drive

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us on and actuate us. It is the influence of our adopted mother, America.

And now, Mr. Taylor and comrades, let this be enough. But not quite. Fill your glasses and drink with me. Luck and prosperity to the country, our country, which after a hundred years of struggle for existence with the primeval forest and poverty has peacefully gained for itself a place in the rank and in the council of nations; which in the face of all sorts of adverse circumstances has created a republican state and maintained and strengthened it through difficult struggles; which is honorable in spite of the temporary calamity of ninety-two per cent. demagogues who have been weighed in the scales and found wanting by more than eight per cent.; the country which knows no Philistines; the land of the present and of the better future—America! *Ein Hoch!*

REMARKS AT THE PRESENTATION OF A
SILVER PITCHER AND SALVER TO DR.
GEORGE F. SHRADY

IN former times I was not a stranger here. I have been a member of this Society these twenty-odd years, and have a long time ago enjoyed the greatest honor this Society can bestow on any Fellow. To-night I am the recipient of another unexpected honor, which, I assure you, as I appreciate it very much indeed, will prove an encouragement to resume in future my former relations to this important and instructive body. I have been distinguished by the committee in charge by the permission to address you, Mr. President, in regard to a fellow-member whom we all know, esteem, and honor.

For twenty-two years Dr. George F. Shrady has been the Secretary of this Society. He has filled that place as only he could have done. His reports have been careful, full, and correct. They have been a guide to the members, and a source of instruction to medical men in general. They have been read and studied over the United States and abroad, and they have contributed a great deal to fostering the love of pathological anatomy and its daily increasing study among the profession. That he, while being our Secretary for almost a generation, succeeded also in obtaining an extensive literary reputation; that, furthermore, by peculiar characteristics of his own, he endeared himself to a large circle of friends and admirers—all this is not my domain to-night to allude to. What I am directed to express to Dr. Shrady, in simple and plain words, is the appreciation of his long and valuable services by the members of this Society.

We know quite well that he meant to perform his duty only. Neither he nor any other sterling man works for thanks or appreciation expressed in any way. The best

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intellectual and social labors are always performed by those who work from inner necessity only. But when one man works industriously, honestly, and usefully in the service of society, country, or scientific body, it is both natural and becoming, it is good instinct and wise principle, on the part of those who derived benefit from his personal efforts, to prove themselves worthy of them by word or action.

Thus, Dr. Shrady, I have the great honor of offering you, in the name of the members of this Society, this small token of our grateful remembrance of your great services. May you live long to enjoy both it and the spirit of appreciating friendship which dictated the gift!

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Mr. President, Gentlemen of the Faculty, Fellow-Practitioners, and Fellow-Students.

THE bust exhibited here and the portrait shown are those of Rudolf Virchow. His name is familiar to all. His renown as a great scientist is older than probably any student in this hall, of as long duration as the life of many a practitioner of great skill and deserved reputation, and has been firmly established so long as to have accompanied the oldest of us through the best and most efficient part of our career. Him I selected for the subject of our conversation this evening. In my opinion there is nothing we can learn so much from as from the life of a great man. If that man be dead, his biography is a source of valuable instruction and admiring appreciation; if he be among the living, and known not to have spent a day of his life except in the service of science and mankind, he is deserving of being extolled to the young—and the old too—as a praiseworthy example. And if he can be shown to unite with the accomplishments of a savant the traits of genius, a universality of interests, and the beauties of a manly and refined nature; and further, if it can be demonstrated that no man in old or modern time crowded more successful scientific work into one lifetime, that man ought to stand out before the eyes of the young man entering upon the study of medicine as his guiding star, as his ideal. For an ideal it is which the young want and require. Fortunate are those who look for theirs among the best and most perfect.

Rudolf Virchow was born on October 13th, 1821, in a little Pomeranian town—Schivelbein—in Northern Germany. In 1843 he was graduated in medicine at the University of Berlin. In 1846 he was made prosector of the Charité Hospital, and controlled in that position the

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whole anatomical material of that great institution. His facilities he utilized at once in delivering courses of lectures on the subject of pathological anatomy. In 1847 he was appointed a regular lecturer in the University. In the same year, together with Reinhardt, who died in 1852, he founded his *Archiv for Pathological Anatomy and Physiology and for Clinical Medicine*, which has since completed its eighty-fifth volume.

In 1848 the Government sent him to Upper Silesia to study the typhus fever begotten by the misery and starvation of a vast population. His report was a masterpiece, containing close observations both of medical and social facts, highly valued by the profession, and, like his later book on the misery in the Spessart Mountains, by those in power and responsibility.

In 1849, together with Leubusher, who also died young and too soon, like Reinhardt, he edited the *Medical Reform*. The ideas proclaimed by him, and his participation in the liberal tendencies of the revolutionary movement of 1848, were disliked by the Government. He was dismissed from his public positions. But the medical societies of the city were so unanimous in their efforts to retain him that he was reinstalled; *for there is, after all, one force* more powerful and influential than swords and cartridges, even in soldier-stricken Germany—viz., public opinion. Still, he did not remain long in Berlin, but accepted the chair of Pathological Anatomy in the University of Würzburg, which he held until 1856, when he returned to Berlin in the same capacity.

Before he left Würzburg he published his "Collection of Contributions to Scientific Medicine" (Frankfort-on-the-Main, 1856). His celebrated papers on "The Movement in Favor of Unity in Scientific Medicine," first published in 1849, head the list. I shall simply mention the titles of the rest, in order to recall to the older gentlemen in this audience the great revolutions in physiological and pathological knowledge which have taken place in our lifetime. There are his essays on "The Physical and Chemical Properties," the "Metamorphosis," the "Origin and the Coagulation of Fibrin," all of them

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written in 1845 and after. There are his celebrated papers on "White Blood Corpuscles" and "Leukæmia," dated 1845 and after, and his five hundred pages on "Thrombosis and Embolism," "Inflammations of Blood Vessels," and "Sceptic Infection," dated from 1846 to 1853; also "Contributions to Gynæcology," with papers on the "Puerperal Condition" (1847), the "Formation of the Placenta" (1853), "Uterine Flexions" (1850), "Prolapse of the Uterus" (1846), and "Extra-uterine Pregnancy" (1850-56; on the "Elimination of Uric Acid in the Fœtus and Newly Born" (1846), "Congenital Hydronephrosis (1854), and on "Apoplexy in the Newly Born" (1850); "Contributions to the Pathology of the Skull and Brain," which contains papers on the "Granular Appearance of the Walls of Cerebral Ventricles" (1846), on "Cretinism" (1851 and 1852), on the "Development of Cretinism" and "Cranial Deformities," on the "New Formation of Gray Cerebral Substance" (1851), and on "Senile Involution of Flat Bones" (1852); finally, a "Paper on Cancroids and Papillomata" (1850).

About the same time he was active with other problems. The "Collection of Treatises connected with State Medicine and Epidemiology" (Berlin, 1879) contains a number of papers written at that time. The two volumes treat in scores of different articles, written between 1848 and 1879, on subjects connected with public hygiene, reform of medicine, epidemics and endemics, statistics of morbidity and mortality, hospitals, military medicine, cleaning of cities, school hygiene, criminal law, and forensic medicine.

However, when Virchow's name is mentioned, it is customary to think of him first as a great discoverer in the field of pathological anatomy.

Pathological anatomy is that part of pathology which treats of the origin, development, and nature of such changes in the solid and liquid parts of the body as constitute disease. The changes most thoroughly and profoundly studied were, in the beginning, the gross and macroscopical, afterward the morphological ones, inclusive

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or exclusive of pathological chemistry, which is still younger than pathological anatomy proper. If I speak of origin, development, and nature of changes, I characterize the science as it is to-day. For neither Theophil Bonetus, who in 1675 collected the three thousand post-mortem examinations recorded for two thousand years past, nor Morgagni in his celebrated book on "The Seats and Causes of Diseases studied Anatomically" (1761), nor Bichat (1801) with his attempts at studying the diseased tissues, nor Aloys Vetter (1803) in his "Aphorisms from Pathological Anatomy," nor the first prosector, Biermayer, of the Allgemeine Krankenhaus in Vienna—founded by Emperor Joseph, *Saluti et Solatio*—nor his successor Wagner, considered anything but the completed changes of the organs. Wagner's successor in the place, which was founded on the 26th of June, 1812, was Carl Rokitansky.

To estimate at its full value the influence exerted by *him*, let us consider the facilities for diagnosis at those times by choosing an example from the large class of fevers. There were catarrhal fevers, with the symptoms of a slight catarrh prevailing; when muscles or joints ached, the fever was catarrho-rheumatic or rheumatic; when the gastric symptoms prevailed, it was gastro-catarrhal or gastro-rheumatic; with a yellow tongue and pain in the right epigastrium, it was bilious, or gastro-bilious, or bilious-rheumatic; with prevailing headache or delirium, it was gastric-nervous or bilio-nervous-rheumatic. There was no end of complication of terms, just as little as there can be an end to the complication of symptoms. That was a time in which nothing better could be done. Most diseases were estimated from the nature of either the subjective or the most superficial objective symptoms of the pulse, the tongue, etc. It was exactly the period in which even the Hahnemannian system, school, sect, was just as easy of existence as any other system, school, sect, or self-styled scientific silliness. Rokitansky's great function was to find, as Andral had done shortly before him—to proclaim louder and more effectually than Andral ever succeeded in doing—that disease meant a change

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of structure and not of sensations and symptoms, and to point out, as Virchow happily expresses it, "a number of natural and easily recognizable types of disease." If I call your attention, by a simple example, to typhoid fever, which Rokitansky installed as an anatomical entity, instead of the nervous, and bilio-nervous, and gastric, and what-not fevers, you have at once an instance of the blessing conveyed by one great man on both the anatomist and the physician. He proved that the most various symptoms can depend on the very same or similar anatomical changes, and could prove that sometimes the same or similar symptoms might depend on different conditions. Thus, the similarity of many symptoms in typhoid fever and acute tuberculosis gave rise to many errors, many studies, until Skoda's skill and genius solved the grave problem of differential diagnosis. To treat of Rokitansky's merits fully is not appropriate to-night. His place in the history of medicine is secure. But still he will not appear—nobody will—as the last and unimpeachable judge in all matters anatomical and histological. On the contrary, his labors, as laid down in the first volume of his "Pathological Anatomy," were undertaken, and in part finished, during the time in which Schwann first found all animal tissue to consist of cells. Thus the histology even in his *second* volume (1846) is of inferior character. This is the first defect. His second error and that of his school is the assumption of humoral pathology in a somewhat new shape. The mixture (crasis) of the blood, engendered by the chemical examination of the blood by French authors, such as Andral and Gavarret, was considered the main cause of many general, constitutional, or feverish diseases. The third great mistake of Rokitansky was this, that he felt convinced, and acted upon the conviction, that *his* special branch of pathology contained everything worth knowing in medicine. Remember, however, *he* lived in the dissecting room; remember that from November 1st, 1817, to October 8th, 1878, seventy thousand and eighty-seven post-mortem examinations were recorded in Vienna. If you do, you will understand, and, though you deplore it, pardon the one-sidedness with which he considered that

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his efforts were everything required, not only for the theory, but for the practice of medicine. He found organs destroyed, or changed to such an extent that life was incompatible with that destruction or those changes. Where was the remedy which could have restored to health the organ which had produced death? *Non possumus*—impossible. Thus he became the intellectual head of the so-called school of Vienna, which, while it increased rapidly the anatomical knowledge and differential diagnosis of the conditions of diseased organs, threw up its hands in despair when the living patient clamored for relief and recovery.

Thus the three great defects or errors of Rokitansky and his school were: ignorance and regardlessness of histology, the clinging to humoral pathology, and the therapeutical nihilism originating in Vienna and infecting a large portion of the practitioners of the world. Let us now turn to Virchow to discover how he dealt with these defects, errors, and difficulties.

Before and about the time when Rokitansky worked and wrote, and Virchow prepared to commence his career, medical science in Germany was by no means independent and self-governing. There was no country in Europe in which observation and regard for facts, and facts only, was less esteemed than in Germany. England had enjoyed a predilection for pathological anatomy since John Hunter; Carswell had studied the elementary forms of morbid processes in his pathological anatomy (1833); physiologists such as Bell and Marshall Hall had added to the stock of positive knowledge; great physicians, such as Bright, Abercrombie, Hope, Williams, and afterward Stokes, enriched special fields of pathology. France lived through its most brilliant medical career. Never before, or after, have more illustrious, sober, and painstaking men worked in the same field with more success than those who sustained French medicine up to 1840 in its high rank. Bichat, Bayle, Dupuytren, Laennec, Cruveilhier, Rostan, Chomel, Gendrin, Bretonneau, Andral, Louis, Billard, Piorry, Magendie, and many others placed French medical science far above the level of any other country. Mean-

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while German medicine was controlled by what was called philosophy, and mainly by the so-called philosophy of Nature. The only great philosopher of the end of the eighteenth century was no longer appreciated or understood. Immanuel Kant, with his clear intellect, his unbiassed judgment, his mathematical training and scientific method, was forgotten or misinterpreted. One hundred years ago this year, his "Criticism of Pure Reason" made its appearance. This very year the orthodox churches of all sorts of denominations have claimed this scion of natural facts, of mathematical problems, this personification of pure reason and unfettered logic, as their own, in this very city of ours. We need not wonder, then, that neither Fichte, nor Schelling, nor Hegel, nor even Hegel's greatest pupil, Feuerbach, followed the road opened by the unsophisticated, shrewd, far-seeing, untrammelled genius of Kant. Under the influence of the German philosophy of that whole period, after Kant, which has been so unintelligible that it was called profound, and so abstruse that it has procured for the whole German nation the title of the people of thinkers, everything in medicine not accepted because it was old and traditional was a matter of speculation *a priori* only. The bases of speculation were premises construed by reasoning not founded on facts; by theories not built on experience, far less on experimentation. Both facts and experimentation were claimed by Virchow as the only admissible foundations of scientific medicine, no matter how long it would take to collect them or to establish it. At the same time he was perfectly well aware that the literature of the last two thousand years contained a great many available points; nobody ever was more honest in collecting material and giving credit. Every one of his books, orations, speeches, essays, lectures, teems with literature carefully collected and critically judged, and proves his appreciation of the necessity of historical studies. As the organism of the human body cannot be understood without the knowledge of its gradual development, thus the present condition of medicine, or the present condition of a doctrine, cannot be appreciated without the history

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of the labors spent on its gradual completion, no matter whether it was obtained by uniform progress, or, what happens much more frequently, by alternations of progress and retarding relapses. For the history of human progress is, in part, the history of errors.

The young student cannot possibly imagine, without historical studies, the condition of our knowledge as late as thirty or forty years ago. Many of the distinguished men here assembled, many of your celebrated teachers on whose lips hang your eager eyes, and whose every word is cautiously remembered by willing ears, lived and studied in a time when capillaries were not known to be true vessels with a wall of their own; when the distribution of the peripheric nerves was not even believed by the most poetical imaginations; when the action of organic muscular fibres, with its universal influence on the function of every organ, was not deemed a possibility, and trophic nerves were not even dreamed of.

The first opposition to the influence on medicine of the so-called philosophy of nature was made by "rational" medicine and the "physiological" school of medicine. It was formed by such learned and ingenious men as Wunderlich and Roser; it controlled the minds and influenced the action of many good men in the profession a number of years. At that time, and long after, pathology was acknowledged as only a part of physiology. At all events, it had no independence of its own. Pathology was an appendage of the natural sciences then recognized. *The emancipation of pathology*, its rise into the number of independent sciences, with, *in its turn*, its fertilization of anatomy and physiology, dates from April, 1847, when Virchow wrote on the *standpoints in scientific medicine* in the first volume of the *Archiv for Pathological Anatomy and Physiology and for Clinical Medicine*. At that time he wrote as follows:

"We ought not to deceive ourselves or each other in regard to the present condition of medical science. Unmistakably, medical men are sick of the large number of new hypothetical systems which are thrown aside as rubbish, only to be replaced by similar ones. We shall soon

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perceive that observation and experiments only have a permanent value. Then, not as the outgrowth of personal *enthusiasm*, but as the result of the labors of many close investigators, pathological physiology will find its sphere. It will prove the fortress of scientific medicine, the outworks of which are pathological anatomy and clinical research."

Five years afterwards he could say: "The scientific method of medical research is firmly established. It is not my merit to have discovered it. Without me it would have been found, and the new trial would have been followed. But I trust that the battle against the existing mixture of arbitrary rationalism and gross empiricism, fought by the *Archiv*, in which I aided by the introduction of genetic investigation, must have contributed much in procuring new aims for pathology.

You remember that, but little more than forty years ago, Schleiden discovered the cell to be the elementary basis of the vegetable tissue. Schwann recognized the same element as the foundation of the structure of all animal tissues. A long series of observations and experiments convinced Virchow of the continuous propagation and proliferation of cells within the individual. After five years of hesitation he published the first preparation for, or introduction to, his cellular pathology, in the fourth volume of his *Archiv*, and another contribution to the same, three years afterward, in the eighth volume.

He proved, and all our experience proves, that life requires a special formation to manifest itself, and certain conglomerates of substance. These conglomerates are the cells and their compounds. Like the individual in its totality, the cell in its turn is the physical body with which the action of mechanical substance is connected, and within which the latter can retain its functions which alone justify the name of "life." In the normal state of this conglomerate it is mechanical substance which acts, and acts only on chemical and physical principles.

The pathological process within the elements, according to cellular pathology, is as follows: A living cell is acted upon by something outside. The latter works a mechani-

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cal or chemical change in the cell. This mechanical or chemical change is disorder or disease. If an action or reaction take place in the cell through that cause, the change is called irritation, the cause irritant. If no reaction take place there is a mere lesion, or perhaps a paralysis. The same cause may act as either an irritant of a simple lesion, or be a source of paralysis. The difference of the results depends on a difference in the condition of different cells. This difference in the condition of the cell is, or rather forms, its predisposition.

Cellular pathology was intended to demonstrate the cellular nature of all vital processes, both the physiological and pathological. Thus, in contra-distinction to the humoral and "solidar" (or neuristic) theories handed down from almost prehistoric times, the unity of life in everything organic was claimed as a demonstrable fact, and the minute mechanics and chemistry of the cell were placed in victorious opposition to the course of explanations based on the mechanics and chemistry of the compound mass. With the improved instruments, and by means of the newly established principle, "all medicine got nearer the natural processes by at least three hundred times" (Virchow).

All medicine; for it is a peculiarity in all of Virchow's researches and conclusions that none is without its immediate results on the theory and practice of medicine, even on diagnosis.

Diagnostic powers have increased with the growth of positive knowledge. Diseases became recognized as local anomalies in the same degree that the old humoral pathology, first objected to by Vesal and Paracelsus, was finally undermined in its position as the general explainer of physical disorders. One hundred years ago the diagnosis of most local diseases was a very imperfect one. A fever with dyspnœa, with cough or without it, was a thoracic fever—a pulmonary fever. When Morgagni had published his "Seat and Causes of Diseases," and Laennec and Dupuytren had developed more proficient means of diagnosis, the disease was sought for and found in organs—even in parts of organs. A pleurisy was diagnosticated

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from a pneumonia, a pneumonia of the right from that of the left side, of the upper from that of the lower lobes. Bichat, though he could not prove it, yet insisted even upon the necessity of diagnosing the diseases of the several constituent tissues.

Virchow's cellular pathology is claimed by him as the consistent execution of the principles and postulates of his predecessors. The localization of disease is taken as a necessity. It is looked for in the smallest composing elements—the cells, for there is no organ but consists of cells or cell production. Blastoderma, protoplasma, are not characterized as something independent, as organisms by themselves, no matter whether they be considered to be some changed condition of the blood, as the older writers would have it, or the shapeless, amorphous mass of the recent authors. The smallest organism we know of, and which has an independent action and a life of its own, changing under the influence of external irritants, is the cell. To fix the disease in a cell, or a group of cells, is the finest localization possible. As a rule we have to deal with a group of cells, like the chemist, who works with and on a group of atoms.

But not only does the practitioner enjoy the benefit of a diagnosis and prognosis based upon the knowledge of local organic alterations, but his therapeutics also have undergone important changes. They, again, are mostly due to more correct observations, and mainly to the experimental method which has been generally adopted these ten or fifteen years, in the study of the effects of medicines on the animal system of organs or tissues. Therapeutics have become more and more local. The hypodermic method has taught us that the local effect of a narcotic is so much more distinct when the remedy is applied to the affected part. Strychnia injected into a paralyzed limb, a deficient sphincter ani, or near an anæmic amblyopic retina, is much more powerful than when given internally. Relations between certain organs and certain remedies have been discovered. Quinine has been found to affect white blood corpuscles and blood-vessel nerves; ergotin has its specific action on unstriated mus-

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cular fibres; atropia on the intestinal ganglia and on the iris; eserine, calabar, are justly credited with local effects. We have remedies with specific effects on the muscle, such as salicylic acid; on the nerves, on the brain or spinal cord; we use the faradic and continuous currents for local purposes; influence local changes, pairs, anomalous functions by cold, heat, moisture, contra-irritants; even remedies known for their general effects alone are used for the purpose of reaching local changes. For not only is mercurial plaster used for the purpose of dissolving local indurations, mercury is given internally for the purpose of influencing local gummata; iodine in order to remove local periosteal swellings or chronic local adenitis. By becoming experimental, therapeutics have become sound, not only for the benefit and in the interest of diseases, but also of surgical interferences. These have never been rendered so safe and innocuous by all the accumulated experience of justly celebrated operators, of justly condemned wars, as by the theoretical reasoning of a living English surgeon, whose name is on the blessing lips of every modern physician.

But cellular pathology does not claim to be a *system* which contains everything, *but a principle*. Thus far every new discovery of pathological facts has found a ready explanation by it and its methods. The changes worked in and by white blood cells, the transmutation of epithelial cells into benign results or malignant growths, the influences, real or imaginary, worked by bacteria, have but strengthened its plausibility. If there be a pathological entity, this entity is the cells in a state of disease. Despite the multifariousness of the vital processes in different organs, life is—no matter whether the cell group, the organ, the individual, well or sick, are concerned—one and the same, and depending on the same the uniform action of the independent cell.¹

The three volumes on *morbid tumors*, published between 1863 and 1867, are a work which might have filled the lifetime of a great student and thorough pathologist, and

¹ See Virchow on the "Essence and Causes of Disease," in his Archiv, vol. lxxix.

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perpetuated his name in the annals of medicine. Never before was sarcoma treated of so extensively and monographically. Never before was the whole literature of the subject searched with so much knowledge and conscientiousness. The etiology, development, and prognosis of morbid tumors were at last intelligibly discussed on the principles of cellular pathology, while even therapeutics were not neglected. The chapters on scrofulosis, tuberculosis, and syphilis, though the subjects were treated of in many, perhaps too many, publications previously, exhibit new researches, new results on every page. The congenital deformities are always described in relation to the embryonic development of the parts, partly as arrests of development, partly as the results of inflammatory action. And not the least beauty of the great work is the fact that the material belonging to medicine and surgery, superficial and deep-seated organs, ophthalmology, dermatology, and gynæcology, is treated of under common and uniform points of view. Thus, as Virchow has proclaimed the unity of life under the most manifold manifestations, he facilitates the knowledge that, after all, the specializing tendencies of modern medicine, natural and necessary though they be to a certain extent, admit of correction and limitation.

The "Investigations on the Development of the Basis Cranii in its Healthy and Morbid Condition, and its Influence on the Shape of the Skull, the Formation of the Face, and the Structure of the Brain" (Berlin, 1857) are, as it were, a continuation of the essays alluded to among the contents of the "Collection of Treatises." They have been fruitful for anatomy, psychology, and pathology. The two works have yielded the anatomical basis of my own paper on the pathological and diagnostic importance of the premature closure of the cranial sutures and fontanelle (1858 and 1859) and of many more important additions to the literature of science. For himself these studies have been of the greatest importance also. On the base created by him—his main predecessors in this field being Leuret and Gratiolet, and Huschke—he has merged into his anthropological studies, foremost among

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which is his book on "Some Cranial Peculiarities of Lower Human Races" (1857) and "Contributions to the Physical Anthropology of the Germans" (1876). Before these publications, however, saw the light, his cranial studies led him into palæontology and archæology. From the beginning of the existence of the Anthropological and Archæological Society of Germany he was a member—in the second year its president. Without being able to follow him in all these studies, I lay stress only on the fact that they are by no means adverse or foreign to strictly anatomical and medical studies. The connecting link is sufficiently clear, though the literary notes I have given must unfortunately be but too short. His paper on prehistoric tombs, and many others, in part published in an anthropological journal, prove at the same time his varied interests and his mental powers, enabling him to combine such a variety of studies and occupations.

Still, his main labors have been spent on pathology and subjects connected with pathological anatomy. His papers on thrombosis and embolism alone would have immortalized him. They acted like a new revelation, by which a host of pathological occurrences and processes, formerly not understood, became intelligible.

The number of his other contributions to pathology is large. I remind you of his investigations on caseous and tubercular degeneration, and on diphtheria. What our Dr. Billings lately said in his London discourse is certainly true. For pathology we do look to Germany—he might well have said, to Virchow and his pupils. Never can too much credit be given to him—never ought he to have been compelled to express himself as follows:

"For years," he said lately, "I became accustomed to the fact that others utilize my labors. I complained of that in 1856, and have more reason now. Many pupils who learned the new results of my researches in my lectures have not always remained conscious of the source of their knowledge, and thus they have not always been in a condition to give me due credit in their publications. I do not propose to attribute that to ill-will in every case. We all live in motion and turmoil, and are the recipients

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of much which, without recalling the giver, we consider our own. Whoever has gathered around himself many pupils through many years must expect that his own thoughts may return to him from afar" (Preface to *Ges. Abh.*, etc., Berlin, 1879).

The first university establishing a full chair of pathological anatomy in Germany—Vienna not counted—was Würzburg. There and in Berlin he taught hundreds and thousands, and educated the men who were to occupy the chairs of pathological anatomy in the other universities. Rudolph Mayer, Rindfleisch, Recklinghausen, Bezold, Cohnheim, Groves, Klebs, Ponfick, and many others owe him their opportunities and their places. Since, and through him, the appearance and working of German universities have greatly changed. Through this whole long period he has worked steadily, and always more efficiently than noisily. His not rushing into print with every little observation has now and then raised the doubts of some of his former pupils, who would be gladly considered his peers, whether he worked at all. This doubt has even been expressed publicly, and, in regard to some points, he has been attacked because of his alleged want of progressiveness and thoroughness. Such is the case, for instance, in regard to the modern parasite theories of infectious diseases, and to Darwinism. Let us inquire.

Berzelius and Liebig developed the theory of chemical catalysis to such an extent that not only was organic chemistry enriched by it to a considerable degree, but the symptoms of infection (not, however, those of contagion) found a satisfactory explanation. Still, at that time, in 1854, Virchow's essay, in the first volume of his "Pathology and Therapeutics," on parasitic plants, gives sufficient proof of his interest in and knowledge of the subject. A special paper of his, in the ninth volume of his *Archiv*, in 1856, demonstrated the botanical nature and classification of some forms of parasites to which an important part in nosology was to be attributed. At that time it was when he invented and first used the term *Mykosis*, which has been generally accepted since.

Davaine in 1854, and Pollender in 1855, found in an-

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thrax the parasite which has since been given the name of *Bacterium anthracis* Cohn. Brauell's papers on the same subject appeared in the eleventh and fourteenth volumes of the *Archiv*, and were the forerunners of an immense literature which has since, in the *Archiv*, other journals, and independent publications, assumed vast proportions. In Virchow's hospital division it was where Obermeier, in 1873, found the sporachæte in the blood of relapsing fever. Again, it was Virchow who, when travelling in Norway, at the request of the Swedish Government, for the purpose of studying lepra, insisted upon the necessity of paying more attention to the dietetic basis of the disease, particularly to the fish eaten in large quantities. He has been severely reproached for not finding the bacillus lepræ, which, after the preparatory labors of four years, has been finally discovered by Armauer Hansen, twenty years afterward.² That very reproach proves that everybody expects everything of him, and sometimes too much. Now, the discovery of every sort of possible and impossible parasites is the regular order of the day, and has been for many years. On this side of the great water it has been Salisbury who has sharpened the appetite for numerous and uninterrupted discoveries of the kind. Every disease, every microscopic lens, every craving for notoriety, swelled the supply; endless was the number of new names, never was Greek dictionary more diligently consulted. Among the last diseases, in which Klebs and Cruvelli claim to have found vegetable parasites which at once are taken to be the very causes of the same diseases, are intermittent fever and rheumatism. Here, again, Virchow has been reproached for not publicly accepting the bacilli of malaria and rheumatism. The very men who insist upon Virchow's incompetency in regard to what they consider as the only basis of the nosology of infectious and epidemic or endemic disease, still appear to address every paper they write, every little observation they publish, to him. He is expected to repeat the experiments at once, appreciate and praise the results, and come to the same conclusions. If he does not, he is incompetent.

² *Archiv*, vol. lxxix.

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One of his best known, but not best deserving, former pupils and assistants, is Klebs, but lately an essayist before one of the London Congress sections. He appears to have proved to his entire satisfaction that his poor master ought to be his attentive pupil. Among other novelties he has found that cellular pathology is incompatible with the new gospel of the parasite theory in regard to infectious diseases. Let us hear what Virchow himself has to say about this accusation (*Archiv*, vol. lxxix., page 209, 1880): "Klebs has placed the whole dispute on a wrong basis. Vegetable and animal parasites *are* among the causes of diseases. Their place is in *etiology*, and therefore it is easily conceived that, as Klebs expresses himself, they found no place in my cellular pathology. There it was not any more my domain to offer an extensive paper on parasites than it was to treat of traumatic injuries and corrosions. In my cellular pathology I meant to demonstrate the changes which take place in the elements of the organism in the general forms of disease. Thus I meant to build up a theory of the essentiality of disease. Specified causes were mentioned only as examples—for instance, intoxication—and, though but briefly alluded to, parasites have not been entirely overlooked. Cellular pathology never meant to be a general pathology. If that were the case, certainly etiology would have found its place in it without abridgment."

Virchow has often been blamed for reserving his opinion, or rather not expressing it at once in favor of those who fain would have availed themselves of his approval of their rapid strides in discovery and unprecedented quickness of conclusion. We are all probably in favor of judging slowly in regard to assertions which require confirmation. For to what extent hastiness, coupled with gentle ignorance, can prove dangerous, Prof. Klebs has shown but lately. In a recent number of a European journal I find, under his name, the description of a cooking apparatus which is credited with keeping bacteria out of the milk which is to be boiled in it. Klebs is quite enthusiastic over it, because, as he asserts, now that bacteria can be kept out of cow's milk, no summer diarrhœa

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has a chance to develop itself. For summer diarrhœa is all at once, according to him, the result of millions of bacteria in the intestines of the babies, the said bacteria being the same which are found in the decomposing cow's milk. And how does he prove this sweeping assertion? Very simply indeed. While the babies had diarrhœa he found the bacteria in the fæces, and thus he demonstrates that the diarrhœa is the result, and the only one, of the presence of bacteria. If, however, the professor had examined the fæces of healthy babies he might have counted the same number of millions of bacteria. The wise omission of such an examination saves his theory. Thus, if it be true that a little knowledge is a dangerous thing, I am afraid that a little ignorance is just as dangerous.

The parasite theory is not yet a scientific system. In most of its claims it is not yet sustained. Many alleged discoveries of characteristic disease germs have seen the light in a few years, and disappeared in utter darkness. In regard to the whole question, while anxiously and willingly waiting for further facts which would simplify the pathology of infectious and contagious diseases, I still maintain, as in the preface to my "Treatise on Diphtheria" (1880), the verdict "Not proven."

Another point which has been raised against Virchow is his hesitancy in accepting not only what has been called Darwinism, but at the same time the teachings and postulations of Darwin's followers and apostles.

As early as 1849, in his "Movement in Favor of Unity in Scientific Medicine," Virchow claimed the origin of life to be a mechanical necessity. In an oration delivered in 1858, a year before the publication of Darwin's "Origin of Species"—printed in a pamphlet containing "Four Orations on Life and Disease" (Berlin, 1862)—he pointed to the changeability and transmutability of species as a necessary basis for the mechanical theory of life. Thus, he was by no means unprepared for *Darwin's* theories. But he knew—and nobody knows it better than Darwin himself—that the transmutability of species, the battle for existence, the theory of selection, even the doctrine of

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inheritance, were by no means Minerva's springing from the head of Jupiter, unprepared and unexpected. For Goethe and Lamarck were not unknown, and the term self-preservation was a stock in trade of the biology of by-gone times. And nobody knows better than Darwin and Virchow that hypotheses are not facts, problems not articles of creed, and the exaggerated generalizations of enthusiastic pupils not the outgrowths of superior minds. On the other hand, much of what was twenty years ago the fear and anxiety of many men and women has greatly settled down as established facts. Twenty years ago the pulpits teemed with attacks on Darwin and what was called his monkey-theories; mobs gathered to stone public lecturers, and extra hells were heated to consume him and his followers. For did he not intend to annihilate the belief in everything that was sacred, even Judaism and Christianity themselves? Was not religion based on the certainty that the world was created five thousand and seven hundred years ago—some thousand years after they enjoyed established civilizations in China, the East Indies, and Egypt—and was it not known that the monkey was constructed on Friday, and man on Saturday?

Many, most of you, remember the time quite well—it has not passed away entirely—when strong expressions were used concerning and against the theories of Darwin and his pupils and collaborators. Many, however, are aware also that some of these pupils and collaborators fell into the same errors of expression and behavior we have to complain of in their opponents. Whoever was not with them totally, and in all their *conclusions*, was considered to be against them. And in this respect no illustrious man had to suffer more from the exaggerations of zealotism on the part of really scientific men than Virchow.

A number of public meetings of several of the annual congresses of German physicians and naturalists, mainly those of Munich and Cassel, were taken up with a dispute principally between Virchow on one side and Haeckel and Klebs on the other. It is mainly Haeckel to whom the popularization in Germany of Darwin's ideas and the-

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ories is due. Himself distinguished by original researches, and an enthusiastic scientist, imbued with the instinctive belief that science must fertilize individual and public life, his sustaining Darwin and his theories has greatly contributed to making what has been called Darwinism the intellectual property of most educated Germans. But in one of his public speeches he insisted upon the theories on selection being admitted among the subjects to be taught in the public schools of the most elementary character. It was to this that Virchow objected, on the ground that only established facts and results, and not theories, should be taught in schools. To this objection it was due that he was overwhelmed with reproaches. It was said that the man was so taken up with work of all kinds that embryology and Darwinism were sealed books to him, and that he to whom—it was true—science owed so much, was to be pitied for his advancing age, which prevented his keeping up with his former pupils, who now stood on his shoulders enjoying a larger mental horizon. These attacks on the part of Haeckel, and mainly of Klebs, are not pleasant reading. There is more eagerness and bitterness in them than we desire to meet with in scientific productions and strifes, or have met with in any words penned by Virchow.

There is a peculiar undercurrent to this controversy which is but rarely visible on the surface, but at the same time is readily recognised by a careful observer. To understand it, it must be remembered that German higher education is mainly classic, and irrespective of religious or anti-religious views or tendencies. The latter certainly are in the majority. Statistics do not prove that in any country and among any people virtue, vice, and crime depend upon the presence or absence of positive creeds, be they Judaism, Christianity, or any other form of belief; but, among other influences, on the amount and nature of education and training. Even the anti-Semitic persecutions in modern Germany have their cause, not in the prevailing influence of the Christian religion, but in the absence of schools; for it is a statistical fact that those Pomeranian and Mecklenburg districts in which Jews are

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killed and Jewish windows broken and stores robbed, are less supplied with schools, and can less boast of mastering the mysteries of reading and writing, than any other part of the land of Bismarck.

Thus it will be admitted that the mainly classic education and agnostic tendencies of the higher classes of Germans do not debar them from being good students, good men, and honest friends and enemies. But, after all, Hellenism, and Latinism were human, too, and Greeks and Romans hated and loved, scolded and praised, kicked and kissed, like people before and after them. There were zealots among them, too. Socrates was killed because he believed differently from other people, on the plea, however, that he subverted the State, as, two thousand years afterward, the Church burned a hundred thousand adversaries. Something reminding of that has occurred in the land of free thought and profound philosophy lately. Haeckel, the classic scholar, the thorough philosopher, the original worker, is aggrieved at Virchow's not seconding all his propositions, favoring all his plans, agreeing with all his opinions and methods. There is one peculiar trait in Haeckel, too, which is rather uncommon in a German savant. His studies have been mainly in embryology and biology. His religious views are of negative character. He believes that these ought to be strongly stated, contrary to those who think and write that creed, faiths, and religion have nothing to do with scientific researches. With these he differs. When his book on evolution carries him to the conclusion that there is no need of a personal God—just as Laplace said he did not require that hypothesis—he not only expresses that conclusion in strong words, but devotes a whole chapter to it. But others are of the opinion that the findings of truths and expounding them has nothing to do with the fighting of opinions and articles of faith, and that religious controversies must not form a part of scientific books. This opinion Virchow has shared all his life. More than thirty years ago (*Ges. Abh.*, page 6) he wrote as follows:

"Faith does not admit of a scientific discussion, for science and faith exclude each other. Not to such an ex-

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tent, however, that one of them renders the other an impossibility, but in such a way that within the range of science there is no place for faith, and the latter can commence only where the former ends. It need not be denied that, if this boundary line be respected, faith *may* have actual objects. It is not, therefore, the domain of science to attack faith or its objects, but its duty is to mark and consolidate the present termination of knowledge."

Such is his position this very day in regard to this question, and thus it is that much of the bitterness of feeling which appears to be engendered by strong anti-religious feelings almost as much as it is known to have generated ferocious persecution and atrocious wars of religion, has been spent on him. He has borne it placidly, but we have to be sorry for the fact that he could not be spared it. If there is anything in science, that something is its influence in elevating, refining, humanizing, and the scientist ought to be, and will be, the very apostle of humanism. As science clears the brain, so it ought to purify the heart. Knowledge, logic, reason, ought to go hand-in-hand with feeling, sympathy, and fellowship. Let me dismiss, then, the controversy, commenced in an evil hour by a man otherwise great and good, by again quoting Virchow, who has remained true to what he expressed more than thirty years ago in the following words (*Ges. Abh.*, page 7): "Humanism, in its true meaning, is no apotheosis of mankind—for that would be anthropomorphism—but the scientific knowledge of the manifold and various relations of the thoughtful individual man to the ever-changing world. *Its* base is the science of nature, its very expression anthropology. For that reason humanism is neither atheistic nor pantheistic, for in regard to everything beyond the reach of actual knowledge there is but one formula: *I do not know* (as Liebig said, the science of nature is modest). Humanism is neither spiritualistic nor materialistic, for to *it* constancy of force and constancy of matter are facts of equal significance, and the unity of man's nature is a settled conviction. It is neither grossly egotistic nor sentimentally self-sacrificing, for, while recognizing the claim of everybody else upon

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existence and full development, he must demand equal rights for himself."

The humanism so well described by him Virchow has lived up to. In his early political efforts, which necessitated his removal from Berlin to Würzburg, he showed his sympathy with the oppressed mass of the people; in his famous papers on the famine typhus in Silesia and in the Spessart he showed his appreciation of the necessity of radical changes in the position of the neglected and starving members of society. Thus, you observe, that, while engaged in professional researches which, in regard to universality, novelty, and reforming power, are surpassed by those of none whose name is immortalized in the history of medicine, Virchow never ceased to feel that he did not only belong to abstract science, but to his people; and again, as his science has always a practical aim and result, so his political and social views have a practical bearing. He was born one of the people and a friend of the people. He need not turn politician; he was a politician born. We, in this our country, are often in danger of forgetting that at one time, at least, the most intelligent, wise, and pure men of this nation of ours were our foremost politicians. Men of courage, character, and genius guided the rising star of the Republic through the night of despair, and the ship of state through the storms of strife and battle. Without the controlling sympathy of the very best, the Constitution of the United States would not have seen the light, and could not have been sustained to its approaching centennial anniversary. We have since descended, sometimes, to the fear that only a second-class intelligence and a third-rate morality make a successful and eager politician, losing sight of the fact that Aristotle already defined man as a "political being," and insisted upon the labor of all in the interest of all.

In many communities a politician is considered a man whose character is not above suspicion, morals doubtful, and social integrity shaky. If, however, there be any truth in this, the fault is neither in politics nor in the politician or officeholder, but in us who feel so indifferent about our own and public matters as to close our eyes

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when watching is required, and to bemoan the result of an election instead of once appearing at the polls. When we happen to find a man of genius and integrity in a high or low public office, we are more apt to wonder how he came there than to feel the necessity that our offices should be filled by just such men only. Virchow's example should teach, particularly young medical men, that thorough science and good citizenship do not exclude each other. Indeed, there is nobody so removed from the midst of his fellows, so absorbed by abstract studies, but has interests in common with the rest of mankind, and nobody so raised above the level of his kind but can and ought to contribute to the elevation of his nation or race by personal contact and the attendance to daily duties. These twenty-two years Virchow has been a member of the administration of the city of Berlin. In his place as an "alderman" he has given his attention to the minutiae of city government. A number of his papers, written within this period, treat of subjects of hygiene, drainage, canalization; and while they point to local necessities and improvements, they give the scientific reader copious material of general importance and new ideas. His regular re-election to the same place, his elevation to the vice-presidency of the board, prove two things: first, that his efforts in the direction of turning science into practice are appreciated by the population of his city; and secondly, that he is not tiring of keeping up his contact with his fellow-citizens, of feeling his obligation to the commonwealth, and acknowledging his duties to his neighbors; and that much, as the Scriptures have it, is demanded of the man to whom much is given.

But more. A man of his attainments can be made useful in a wider sphere; a man of his sense of responsibility will shoulder more important duties. Since 1862 he served in a constant succession of terms as a representative of the people of Berlin in the Prussian Lower House. In this capacity he acted as member of finance and other committees, always ready to work, to learn, and to teach.

However, to go into his history as a politician would require a review of Prussian and German politics. This may be said only, that, though he be not at all a brilliant

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speaker, his words are always listened to with attention, his wisdom is always honored, his courage and moderation are always admired. It is not necessary to add that he sides with the party of liberal views and progressive tendencies, and is in constant opposition to the one man who, through nearly twenty years of oppressive measures, dissolution of parliaments, governing without the assent of the representatives of the people, sudden changes both of economical and ecclesiastical policy and party affiliations, brutal assaults on the rights of individuals, the freedom of the press, and the principles of the constitution, though he succeeded in throwing into the lap of the Prussian reigning family an addition of large territories and in gaining for Germany a partial unity, has done more than any German man in history to emasculate German politics and demoralize the public conscience. I am no prophet, but this I predict: when that man of iron and blood will have closed his career, no sorrowing fifty millions will drape their doors, as we did a week ago, and feel that every household has been bereaved, as we then felt. A seat in high politics will be vacant, but no place in the hearts of the people will need to be filled. Bismarck has not found a more persistent and conscientious adversary than Virchow through all his parliamentary career. In regard to the latter I will predict that among the German politicians who resisted to the utmost the lawlessness of absolutism, and claimed that law should be supreme, the rights of citizens respected, the officeholders know and live up to their duties, the constitution be carefully guarded and protected, and peace not rendered as expensive and exhausting as war, Virchow's name will, for all time, be mentioned among the first and wisest and purest.

Did time permit I would fain go into particulars: his contributions to the legislature on infectious animal diseases; on fisheries; his participation in the debates and legislation on the arbitrary expulsion of Jesuits; of his introduction of the term "*Kulturkampf*"—battle for culture—in connection with the dissensions between Bismarck and the Pope, which commenced with the boast of the former that he would not go to Canossa, and ended with the

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victory of the latter four weeks ago; his many lectures for workingmen's societies; his superintending, with Prof. Holtzendorff, the fortnightly publication of a number of series of popular lectures; his supervising the erection of public hospitals and the first barracks; his conducting the first sanitary train into France during the Franco-German war, and his serving as an officer in the army auxiliary societies centred in Berlin.³

When he first became noted in politics the admirers of his genius became anxious concerning the influence politics might exert on the rest of his labors. There were those who predicted that politics meant the closing of his scientific career, and others—not rarely those who owed him their education, first ideas, and positions—jealous of the great king's powers, who supplied the cartmen with jobs while he was building—as Schiller has it—took it for granted that he could not even keep up with the rapid strides special branches of science were making through their and others' efforts. But the facts point the other way. Since he almost filled the first volume of his *Archiv* with his introductory "On the Standpoints in Scientific Medicine," and his researches "On the Development of Cancer" and "On Pathological Pigments," and an "Essay on the Reform of Pathology and Therapeutics by Microscopical Investigations," almost no volume has appeared to which he has not himself contributed. Many of his papers are elaborate and lengthy, and would, if written by most others, according to the habit prevailing in Germany, have swelled the number of pamphlets and books published with independent title pages, instead of forming parts of journals. Gigantic work like that performed by him in his first twenty years cannot continue forever; one new era created cannot be replaced by another by one man. If he had done nothing since besides writing his occasional reviews and summaries, such as "Old and New Vitalism" (vol. ix.); "Our Programme" (vol. 1.); "War and Science" (vol. li.); "On the Standpoints in Scientific

³ One of the latest cable news speaks of Virchow as one of the speakers in a public meeting held in memory of James A. Garfield.

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Medicine" (vol. lxx., 1877, thirty years after his first article in the *Archiv*); "The Nature and Causes of Disease" (vol. lxxix.), he would have deserved the thanks of the medical world. That he has done more we know. Some remarks of his own in regard to the subject are found in the preface to his first volume on tumors, and are very characteristic. He says:

"The dates of many of my lectures will prove that even on those days on which important matters claimed the attention of Parliament I have attended to my duties as a teacher. To set at rest the anxiety of my friends, I will add that the silent and often unnoticed labor of a scientist requires more energy and greater effort than the activity of the politician, which is both noisier and more speedily appreciated. The latter has appeared to me often to be rather a recreation than otherwise."

Of such "recreations," as Virchow calls them, he has, however, more than one. His practice among the forlorn herdsmen of Asia Minor is an instance.

Schliemann, by whose modern witchcraft holy old Troy is just leaving its tomb, invited Virchow to aid him in his work of discovery of the buried city. He went—partly to aid, partly, as he says, to escape from overwhelming labors at home, only to be engrossed in just as hard work, though of a different nature. In regard to the latter, Schliemann's recent book on "*Ilios*" contains some very interesting material. But what has engaged my attention and interest most has been to observe the humanity and indefatigability displayed by the great man in the service of the poor and sick. To read of his constant practical exertions in behalf of the miserable population of Hissarlik; how he taught the aborigines the efficacy of chamomile and juniper, which grow about them, unnoticed and unused, in rare abundance; how a spring he laid open for archæological purposes has been called by them "the physician's well," and is believed to have beneficial powers; how he was, on leaving the neighborhood, loaded with flowers, the only thing they had and knew would please him, has charmed me intensely. To admire a great man for his professional labors, eagerly undertaken and successfully carried out,

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is a great satisfaction to the scientific observer; to be able to love him, in addition, for his philanthropy and warm-heartedness, is a feast of the soul.

On this platform, and on the seats in front of me, there are masters of our profession, not a few known wherever medical science and art are appreciated, studied, and practised. There is, however, none among them but has learned from the great genius whose name I have so often mentioned in the course of this hour. There are practitioners here, learned, shrewd, successful; every one of them uses the terms invented, knows the theories proposed, by the same powerful mind. Those who are young have grown up under the shadow of this tree; those who are old have been taught by him to look through his eyes and follow his methods. Schools have been overturned by his efforts, science and scientific methods reign supreme. The last dangerous doctrine of the crases of the blood, so long upheld by Rokitansky, belongs to the past. Pathology is, since and through Virchow, founded on the smallest organism—the cell—and is, as Huxley but recently proclaimed it, nothing but that branch of biology which treats of peculiar disorders of cellular life, or of the co-ordination of cell complexes, that give rise to every vital process. We cannot to-day read a medical book or monograph without Virchow's name being inscribed on many pages. When it is not mentioned, it is because the facts have become as self-understood, almost, as a mathematical axiom or an occurrence in history. There are hundreds of journal articles in our literature commencing with the phrase, "Virchow says." Modern medicine without his name cannot be written. They belong together. Nevertheless, I repeat, his is not a school. His methods are simply scientific, based on facts and leading to facts. Schools are built on ingenious ideas, not based on facts and experiments. It is not probable, I cannot imagine, that after the schools of Broussais and Brown and Schönlein, and that of Vienna, there will be another one. Our school, the school of the future, is scientific medicine. The greatest glory of Virchow, for all time, is that he was too great to establish one, and too universal to compel us to *jurare in verba magistri*. All of

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us, old or young, knowingly and unknowingly, are his pupils. The young men who to-night enter upon the study of medicine will hardly be taught a chapter in pathology which does not exhibit the impress of his genius.

Was I right in presenting as an ideal pathologist this man to the old and young engaged in medicine, and particularly those here this evening? Virchow has done enough to immortalize his name by his researches and the progress medicine has made through him. His rank in the history of medicine is assured. Among archæologists, also, he ranks high. The Anthropological German Society made him president after the first year of its existence. Schliemann calls him to Troy to avail himself of his superior knowledge. Numerous discoveries among old tombs, and valuable essays, are due to him. His scientific mind and exact methods prove as successful in archæology as in pathology. Even purely historical researches, as those undertaken of late on the battlefield of Fehrbellin, owe him their success.

His position in politics, his participation in all humane endeavors, I have alluded to. No longer is he to us only the man of pure science, but also the practical statesman and philanthropist. Moreover, he is the practitioner of medicine among the poor, like the best and noblest of us; also, for the rank and file of the practitioners of medicine, he is the model of a professional brother and colleague. He is one of the most assiduous and regular members of the local medical societies, participating in scientific discussions and serving the common interests of the profession. The same spirit of humanism and solidarity which presses him into the service of the city and country makes him an active associate of the medical community. Too often do we meet the contrary. Those who have risen and advanced—partly through their own efforts, partly, however, and not very rarely, through the favor of their fellows—are too apt to forget that they are but branches of the same tree. In our own midst we notice too frequently that those whose co-operation and example would make them the most desirable members, keep away from the societies of the county, State, and others. The indi-

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vidualism and egotism of the industrial period of the nineteenth century, so rife among the manufacturing and commercial classes, threaten to invade the medical profession to an undue extent. There is no man, however, who sacrifices more time and does more work to foster professional feeling and brotherhood than Virchow. Hardly any of the great scientific national and international associations and congresses takes place without Virchow being present. No question arises, where universal knowledge and the weight of a great name are required, but his voice is heard. But lately, in London, he raised it in favor of protecting and saving the physiological experiment.

Both his universality and urbanity, as also his sense of justice, are of peculiar interest to us, the American profession. Many are the occasions on which he expressed his appreciation of the republican autonomy of the medical men in this country, of the efforts on the part of medical societies in behalf of the suppression of quackery, and also of the scientific results of American medical labor. Let me quote but one passage from an oration delivered on August 2d, 1874, "On the Progress of Military Medicine." Virchow says (page 6):

"The French army lost in the Crimean war thirty-three per cent. of its men—viz., 95,615. Of this number 10,240 were killed on the battlefields and about as many died of their wounds in the hospitals. More than 75,000 men died of infectious diseases. In the American Civil War 97,000 died of their wounds and 184,000 perished of infectious and other diseases. What a vast amount of pain and misery! What an ocean of blood and tears! And, besides, what a number of errors, mistakes, and prejudices! It is not necessary to now enumerate the long list of blunders and sins. They are so well known as to serve in the future as warning examples.

"Let me say here that it was not misfortune alone that showed where the cause of the evil was and then provided aid. If the French learned little or nothing in the Crimea, and the Americans so much in their Civil War as to create a new era in military medicine, the explanation is not to be sought for in the immensity of misfortune and misery

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undergone by the Americans, for they did not suffer any more than the French did in the Crimea. The explanation is in the critical and thoroughly scientific spirit, the clear perception, the sound and practical common sense which penetrated gradually every part of the American military administration, and which, with the astounding co-operation of an entire nation, accomplished more humane results than any great war ever produced before. Whoever studies the copious publications of the medical staff of the American army will again and again be astonished at the vast experience collected in them. Absolute accuracy of details, the most painstaking statistics, acquaintance with all branches of medical learning, and a comprehensive style, are united in them for the purpose of collecting and preserving, in the interest of the present and future generations, the new knowledge so dearly bought."

So says Virchow, and well may we be proud of his opinions thus expressed.

Thus we have in him a man who has done more for pathology than any single dead or living man. He has been foremost in raising, when the time was ripe for it, medicine to the dignity of a science with purely scientific methods. He has served his country as he did science, and humanity as he has his country. Was I right in speaking of him in the first hour of your medical studies, young men, as the ideal of a medical man, and a man? There is but one thing I have to add. It is this: That, as a rule, biographies are given and held up to admiration and imitation when great men have long completed their labors with their lives. Let us rejoice that Virchow's biography is not completed yet, and that he will, I hope, long live to contribute to medical science as your teacher and the teacher of your teachers.

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DELIVERED FEBRUARY 7TH, 1882, AT THE OPENING OF THE
SEVENTY-SIXTH ANNUAL MEETING OF THE MEDICAL
SOCIETY OF THE STATE OF NEW YORK.

Mr. Vice-President, Members, and Delegates:

THE third quarter of our first century is just closing. Thus our annual meeting of to-day is one of unusual interest. The history of these seventy-five years, comprising almost the whole life of the Republic, and also the greatest possible changes in the development of medical science, is of vast importance. At the time when this society was formed, Bichat first thought of establishing on a sound basis a pathology of the tissues; in this third quarter, cellular pathology, though open to further evolution, reigns supreme. Those times were still the periods of systems and schools; ours has succeeded in establishing scientific medicine on the sound foundation of close observation of the histological elements and of experiment. This society, though we cannot boast of revolutionizing medical thought, has participated in the general progress; besides, the last decades have produced many original ideas, useful observations and much learning, and provided for American medical literature an honorable position. This honorable and honored position is not due to a particular class of men, though it be true that in modern times a large number of those who have given unusual splendor to the American name are connected with medical schools as teachers of special branches. But when medical schools were but few it was in the profession at large that the men of learning, progress, and influence were found. Even to-day, fortunately, this condition of things is not entirely changed; and the experience of a former time in Europe has in part repeated itself with us here. In all of the eighteenth

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century it was not the professors but the practitioners who improved medical science.

It is fortunate for us that such is the case. Its increasing influence and power this Society owes mainly to those who never presided in a lecture room. For it is a fact that we, the delegates of the county societies mainly, and the very representatives of the profession, have had to rely less on the co-operation of the schools than on our own resources. It is true that our meetings take place in the midst of the college lecture terms, but there is no professor who could not spare us a day or two, and enjoy an audience of peers for once in place of descending to pupils forever. Besides, there is no country in the world but ours in which the professor and the practitioner are so near kin. The professor was or is, almost in every case, a practitioner and is selected from the ranks of the profession. Still more, "*noblesse oblige*." Those on the heights may well come amongst us. They will find eager listeners and always be welcome. Moreover, many of the interests of the practitioner and the college teacher are identical. As far as the colleges are concerned, it is true that the progress of medical education is greatly due to their labors; but again it is true that not long since a celebrated college publicly rescinded its own measures taken in the interest of a better preliminary education on the part of the matriculants. It is, however, a glorious fact in the history of the profession at large that almost no year has elapsed without the discussion of proper measures for the advancement of medical education. This fact is in accordance with all our republican habits and institutions which stimulate the masses into action in behalf of the general good. The consciousness of the necessity of advancement has certainly rooted first in the profession at large, and not a few of the colleges have consciously or unconsciously obeyed the requirements and dictates of public opinion, which is getting stronger and more elevated from day to day. In that respect it is with intense gratification that I learned of the resolution of the Medical Society of Oswego County excluding from the office of any of their members such as are desirous to commence

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the study of medicine without having first obtained a fair preliminary education, and that I am permitted to publicly recognize my appreciation of their action in the composition of the most important amongst the temporary committees of this Society.

In regard to the colleges, it is but too well known that their requirements for graduation are certainly not always equally strict. We need not inquire into the reasons for this inequality of level, be they pecuniary, intellectual, or other. But the fact is recognized, and nobody is more sorry for it than the profession. In the interest of both the public and the profession, medical education ought to be of the most advanced kind, and the license to practise ought not to be too easily obtained. Thus the profession has for many years insisted upon a change in the law which licenses practitioners of medicine. Perhaps it cannot be proven that any medical school ever opposed the establishment of a State Board of Examination, which alone might be authorized to convey the license to practise, the right of the colleges to confer diplomas notwithstanding. If they ever did, it is not probable that any college would now oppose any such movement, which I hope will be set on foot and result in the Legislature passing a proper law. For the good colleges would not be afraid of their graduates not passing the State Board, and no college would be willing to thwart the movement for fear lest its unwillingness to compete might be recognized as, or alleged to be, the result of incompetency.

The law of 1872, establishing a State Board of Examination, became inefficient in consequence of a clause, added by some one at the eleventh hour, necessitating the mixing up of our intentions and interests with those of the homœopaths. I do not say that I believe that any ill-will or malice distorted the proposed bill, but the fact was really this, that at that time we were less inclined than many of us appear to be to-day to go hand in hand with those with whom no tie of fellowship appeared to unite us but the sacred name of "physician." It is claimed by many that a co-operation with the homœopaths for the purpose of arranging State examinations would not be out of place, in

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the same degree as it certainly was eight years ago, at the present time.

It is generally asserted by many that there are good reasons for abolishing the boundaries between the several classes of medical men altogether. I do not speak of schools of medical men, for modern medicine is not divided into schools. The homœopaths claim that they do not differ from us any longer, do not mean to differ from us, as formerly they did and proudly claimed to do. If we have reason to believe, not only that medical science is one and indivisible, and based on logic and experimentation, but that we, the profession of the State of New York, are sufficiently imbued with that spirit of logic and experimental science characteristic of modern medicine, we may overlook differences, and meet with a spirit of reconciliation those who do not encounter us any more, so they say themselves, with the dicta of a school or a sect, but who claim that each individual man amongst them stands on his own feet and does his own thinking. A crowd of men facing the profession with the battle cry of "*similia similibus*" and "no quarter," exclude themselves and cannot expect kind treatment at our hands. When the ranks, however, are dissolved, and no *esprit de corps* makes them raise the flag of hostility, and, instead of a fighting army under orders, men come into your camp for reconciliation and a parley, the case is different.

There is that other consideration. We are not the only class of what the State calls "lawfully qualified practitioners." It is in our interest, and has always been the effort of the professional men of the State, to better the condition of the profession and the public by the elevation of the standard of education. It is desirable that no part of the medical practitioners should be excluded from the benefits of such efforts or from co-operation in that direction. It is more than expedient, it is absolutely necessary, that in many steps to be taken before the Legislature of the State we should be in full concord with those who share with us the honor of being called lawful practitioners. Whatever you will decide, I know it will be done with deliberation and wisdom. Whatever your decision

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will be, I shall be the first to obey it, and hope that whatever laws we shall have, they will not be enforced on the young and powerless only, and broken by the mighty and independent. In that hope I am quite prepared to submit to the reports and recommendations of your committees on legislation and on the revision of the code of ethics. I abstain, therefore, from further remarks on that theme.

In accordance with the interest this Society has always taken in all matters of public hygiene and welfare, I have a word to say in regard to some contagious diseases devastating both the large cities and the country. It is certain that both scarlatina and diphtheria are contagious. It is also certain that the possibility and probability of contagion extends over the whole duration of the disease, and is enhanced by the accumulation of the poison produced by the accumulation of cases. It is also certain that without thorough disinfection, mainly by sulphurous acid, the poison is not destroyed and will remain active. It is just as certain that when you enter a room full of healthy and boisterous children playing around the bed of one of them stricken with a bad form of diphtheria and scarlatina, a goodly percentage will be dead within a week or two; it is reasonably certain that the immediate removal of the one who is sick, or of those who are well, would improve the chances of the first, and probably save all. It is also certain that a case of diphtheria in comfortable quarters in a well-to-do family will infect its clothing, bedding, and all surroundings; it may get better—have another attack and one more serious—may get well—will be taken again still more seriously than before, and will not be checked on its road to destruction except by removal from its quarters replete with comforts, poison, and death. Several such cases I know to have been saved by their removal to a proper isolating room in a public institution in the city. Every one of you has seen those who have been or could have been saved by removal and strict isolation, aside from those who live in an infected, unclean, reeking neighborhood. The mortality from scarlatina and diphtheria in the large cities is fearful. The complication of the two scourges has increased the danger attending them.

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Not desiring, however, to discuss this subject, with which you are but too familiar, any further, I refer you to an occurrence in New York City which resulted in the following letter of the President of the Society for the Prevention of Cruelty to Children, to the Mayor of New York, part of which is here read:

"Very recently this society was called upon to remove certain children from the infant asylum, No. 21 University Place, in this city, where upon examination it appeared that there were over eighty children of tender years in the same building with cases of scarlet fever, diphtheria, whooping cough, and subsequently of measles. The society immediately invited the attention of the Board of Health thereto, with a view to the immediate removal of the children afflicted with these contagious diseases, but received this astounding statement from the Board:

"Our Reception Hospital is the only place we at present have for the care of such cases. The Reception Hospital was built, not for continuous occupancy, but merely as a place where cases of contagious disease may have shelter and be made comfortable while waiting for the arrival of the boat to convey them to the island. Within the past year the buildings on the island were so crowded with cases of small-pox, typhus, and typhoid fever that we have there no room for scarlet fever and diphtheria. Therefore, we have been compelled to take such cases as have been forced upon us, and give them the best care we could at the Reception Hospital, though always at the risk of their taking some other disease. . . . Our facilities for the care of such cases are so limited that we are often greatly embarrassed, being compelled frequently to refuse patients admission for want of room, greatly to our own annoyance as well as to that of the patients' friends."

I submit to you, delegates and permanent members of the Medical Society of the State, the above remarks, without any additional ornamentation, without an attempt at oratorical pleading, as a matter to be carefully considered. The large cities require a place, or places, for the isolation and treatment of cases of scarlatina and diphtheria. Not only the tenement population, but the rich also, are

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in need of them. A hospital of the kind could be made partly a self-sustaining institution, although the necessity of providing a room for every single case and a numerous supply of good nurses, the extra work of constant disinfection, etc., would render a hospital of that kind expensive.

I can state that my suggestion has not been considered utopian by some with whom I have conversed on the subject. Pecuniary support has been offered in several instances without my asking, and the support of the President of the Society for the Prevention of Cruelty to Children was readily promised. But while all this is gratefully remembered by me, I know that the object in view will be more readily accomplished if this great and influential body will lend its support. I hope that a motion will prevail to suggest the necessity of establishing hospitals for the treatment of diphtheria and scarlatina within the limits of the large cities. The scientific opinion of this Society, when publicly and solemnly expressed, will contribute much to allay the fears of the community in regard to any alleged danger resulting from the proximity of such institutions, and to prove the necessity of avoiding the fatal mistake of insisting upon the removal of such patients to a distant hospital.

The last subject to which I desire to direct your attention is the danger to life and limb of the factory children. The number of children employed in factories is increasing yearly, and not only accidents, but permanent diseases and deformities increase at a much higher rate. If you so order, I shall present to your Committee on Legislation the proofs I have collected and the reason for my desire that this Society should commit itself in behalf of a law to be passed by the Legislature for the purpose of protecting early childhood from factory work and factory influence. Bills of that class have passed the Legislatures of several States—New Hampshire, Massachusetts, Connecticut, Ohio, Pennsylvania—but they are insufficient. A bill such as I should contemplate would comprise a few points of the following nature:

First. Children employed in factories should be under official supervision. In large cities the Boards of Health

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could be entrusted with this supervision. In England, France, Germany, and Austria it is the business of officers appointed for that special purpose.

Second. Before being admitted to factory work a child of legal age ought to be examined. Chlorotic, anæmic, scrofulous, crippled, scorbutic, bronchitic, phthisical children, and those under the normal size of their ages, must be excluded. Manufacturers and physicians will always differ on these points. The certificates of the latter ought to be conclusive.

Third. No night or Sunday work to be permitted.

Fourth. Some branches of work are to be forbidden entirely. There are some which are known to interfere with physical development, and others which are known to prove highly disastrous to childhood and adolescence for various reasons. These are mining, glass works, rag sorting, employment on mercury, lead, arsenic, iron and brick works, and match factories. According to Popper's researches, the number of deaths in young persons is very great in glove factories, amongst jewellers, printers and lithographers, waiters, turners, locksmiths, bookbinders; while gardeners, millers, coachmen, carpenters, butchers, brewers, varnishers, and bricklayers stand a better chance.

Fifth. The earliest age at which the young should be admitted to manufacturing employments ought to be fourteen. Up to the period of puberty the organism must not waste the energy required for the development of both body and mind. It is quite possible that the manufacturer has plenty of opportunities for the employment of those younger, but the community, the State, the welfare of the Republic, require energies which are not wasted, bodies which are not crippled, and souls and minds which are not entirely withered. The commonwealth has as much claim in that direction as it has in regard to compulsory education—compulsory in spite of ludicrous fanatics—and vaccination, and prohibitory or compulsory health regulations.

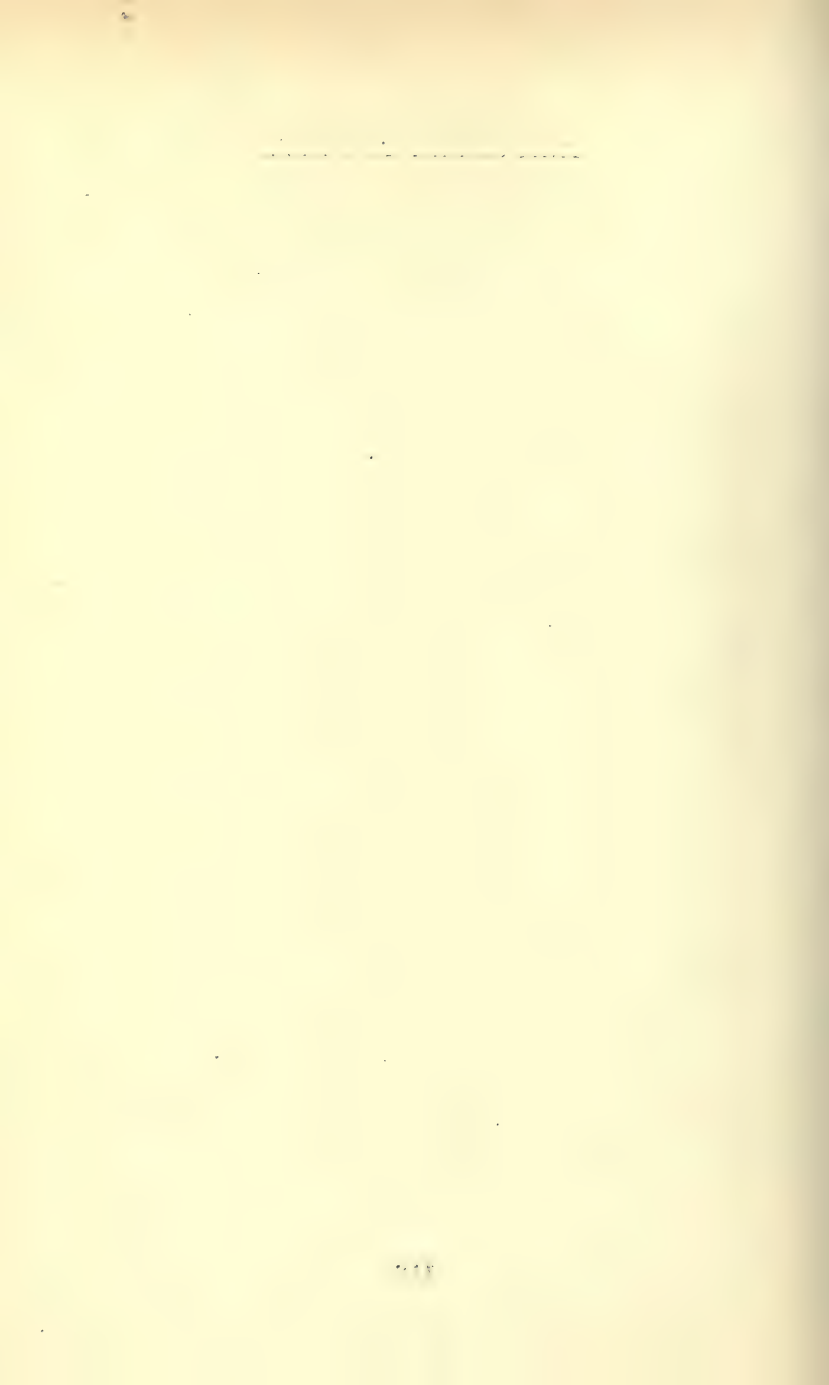
Finally, at the close of this introduction to your work, I beg of you the permission to venture upon a personal remark.

Twenty-eight years ago a young refugee from European

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state prisons set foot on the hospitable shores of this continent. The homeless wanderer is to-day the proudest of your number, for a year ago this week you elected him to the most honorable and honored position the profession of this great State can fill. That I did not work for the attainment of this honor, your nominating committee of last year know; that I did not expect it, I assure you; that I hoped for it at some distant future, I admit; that I deserved it for what services I may have rendered to either the profession or science, I cannot prove; but that I meant to be worthy of it in the future, I know. You will be good enough to accept my earnest and sincere thanks for the honor you last year conferred upon me, the first foreign-born President of this Society, as far as I know; the first, certainly, since the profession of the State counted amongst its members the great number of men deservedly known and appreciated in the State and far beyond its boundaries, even in the Eastern Hemisphere. For when Virchow speaks of the intellectual capital invested by Europeans in America, which returns to Europe with ample interest, he thinks of New York State amongst the first to be considered.

I trust that I know something of the profession in the different states and nations of Europe. I know there is no national profession with the same spirit of hospitality to both new men and new ideas, the same impartiality and absence of territorial narrowmindedness, which is prevalent amongst the medical citizens of the United States. That may not be, and probably is not, a merit of ours. For I think that those who are born and bred in a republican community, where every one is the peer of the other, respecting his neighbor as and because he respects himself, are more apt to also become conscientious citizens of the republic of letters and science. May that spirit remain intact and chaste, for the fourth quarter of this century and for centuries to come, in the life of the Medical Society of the State of New York!



VALEDICTORY REMARKS

UPON RETIRING FROM THE HONORARY PRESIDENCY OF THE
SECTION OF DISEASES OF CHILDREN OF THE
TENTH INTERNATIONAL MEDICAL CON-
GRESS AT COPENHAGEN, 1884.

Gentlemen:

THOUGH the second to speak to you before leaving this place, and obliged to repeat, though less charmingly, much of what Prof. Rauchfuss has said, I am none the less anxious to express my gratitude to your president, Prof. Hirschsprung, and to you who have honored me with the most marked proofs of your hospitality. Being permitted to preside over some of your meetings, I have been in closer contact with you and your exertions than it would have been my good fortune if I had been a member of the audience only. The interest I take both in the subjects discussed here and in pædiatrics generally make me the more cognizant of your kindness and the more grateful for it.

The number of subjects discussed here has been large. They were various in nature, but equally interesting. I feel sure nobody will look back upon our meetings except with the feeling that he has not only been entertained, but that he takes away with himself a number of useful and fertile impressions. Not a few of our topics have a general bearing on common human interests, and even on social questions. Thus we have to a high degree, as much as it was possible in a few brief meetings, accomplished much from the points of both the medical man and the citizen. This is the position which the physician is called upon to fill, now and forever. Medical conscience begins to be aware of this more and more. The public has long ago recognized and appreciated it. If you desire a proof, it may be found in the splendid hospitality of the munici-

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pality of Copenhagen, the generous reception by the king, the enthusiastic and at the same time kind attentions on the part of the whole public, which have warmed the heart of everybody amongst us. They will be a reminder to all of us of our obligations both to science and mankind. And while we know that we do not stand on an isolated pedestal as medical men in contradistinction from society, this fact reminds us also of the necessity of not forgetting that we do not stand isolated and in contradistinction, far away from general medicine, when we gather for special studies in the pædiatric section. Into the question of specialties, however, I shall not enter this moment. Though I claim to take a special interest in pædiatrics, I have taken pains never to cease nursing my ambition of being a general practitioner. As such I shall never cease, I hope, to love children, to study their nature, their physiology and pathology, and to join you in every effort of yours in fostering pædiatric science. Thus, while I bid you adieu, with the expression of both my satisfaction at having been here and of my regret at parting, I look forward with great gratification to our next meeting, in Washington, and my own home. Valette.

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DELIVERED BEFORE THE NEW YORK ACADEMY OF
MEDICINE, FEBRUARY 5TH, 1885.

It has been my privilege to enjoy many professional honors. Whatever favors my colleagues of both city and State could ever dispose of they have liberally conferred on me at different times. To-night I am called upon to acknowledge my indebtedness and express my thanks to you for an extraordinary proof of your consideration and confidence. I do so from the depths of my heart, my pride in my elevation to the presidency of the New York Academy of Medicine being checked only by the overwhelming sense of the grave responsibility incurred.

In regard to the two highest positions the profession of the city has ever placed me in I have been both fortunate and embarrassed. For when, some fifteen years ago, I took the chair in the Medical Society of the County of New York, my predecessors were Edmund R. Peaslee and George T. Elliot. The former was erudite, wise, a celebrated specialist, a renowned writer of great weight and force. The latter was bright, quick, versatile, as eloquent as his predecessor, conversant with the literature of his profession, also a good writer, and universally admired and loved for his pleasing manner and thoroughly gracious bearing. The difficulty of presiding after such men was relieved by but one all-important circumstance, which was this—that they had raised the Society to a flourishing condition such as had never existed before.

Now, as concerns the presidency in this Academy of Medicine, I believe I am in nearly the same position. If I were more eloquent I should try to do justice to the president of so many years, in recalling his services in the interest of the literature of medicine, of the standing

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of the profession at large, and of the development of this Academy. To say that the medical world knows him well, that we, the profession of the city and the members of the Academy, are under a great and respectful obligation to him for his untiring care and energy, his enduring patience, his kindness and urbanity, and his uniform success in conducting the affairs of the Academy, is but an incompetent expression of my feelings. Personally, I add my extreme gratification at the fact that it was under his guidance and supervision that the Academy could overcome such dangers and strifes as I hope these walls will never behold again. As they, however, are things of the past, I hope I shall have nothing to do but to preside over harmonious scientific meetings only, such as were contemplated when the Academy was founded. It will be my ambition and pride to contribute to its success as much as I can, hoping at the same time that your expectations will not be measured by Dr. Barker's eulogistic remarks, which I should be glad to deserve. In regard to them I will only say that I believe they were made on the principle and for the reason that it is wise to stimulate ambition into powerful efforts for the accomplishment of ends by praising beforehand. The members present I beg again to receive my thanks, my promises, and my request that every one may consider the interests of this Academy under his personal charge. It will then be an easy task not only to preserve its high character, but in the course of time make it the largest and most influential scientific institution in the country.

How this can be accomplished has engaged my thoughts more than once. For the New York Academy of Medicine has been established for more than one purpose:

First. The cultivation of the science of medicine.

Second. The advancement of the character and honor of the profession.

Third. The elevation of the standard of medical education.

Fourth. The promotion of public health.

It has not been founded upon the plans of European institutions bearing similar names. The academies of

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sciences or of medicine in Europe, established for the promotion of science and art of medicine, are institutions with a limited number of members, who have peculiar claims for such distinction. In them we find the most representative men only. Every one is a specialist in his way, a teacher, a savant; most of them are men of reputation, many are celebrities. They are professors in universities, directors of clinical institutes, independent of pecuniary compulsion to practice medicine, enjoying the leisure required for studies of their own. They are governed in part by rules prescribed by the Government, which pays for their services either rendered to a public institution or to pure science.

Our Academy is a democratic institution. It is not limited in numbers; on the contrary, it is desirable that the many respectable physicians should gather round its flag. Like our political community, it looks for its development and success in the co-operation of the competent and cultured masses. Like the Union, it is a voluntary confederation of peers, who make their own laws, and obey them because they are of their own making. The members have the same interests, both scientific and professional. There are but very few of us who are not engaged in the practice of medicine. When the Academy was founded the members were, all of them, general practitioners: specialists there were but few. This has changed much; both study and practice have tried to become more profound by circumscribing and limiting their aims. But all of us are active men, not tied down or given up to study only. Thus we perform less laboratory work than they do in Europe, and write fewer monographs on special subjects. But the number of facts closely observed at the sick-bed or in the examining room has increased from year to year. In spite of the circumstance that we are all busy men, the literature of medicine in New York and the United States is no longer mostly parasitical, as Oliver Wendell Holmes was justified in complaining during the session of the second meeting of the American Medical Association. Original work has taken the place, in part, of translations and reprints; still all the time the con-

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nection between the medical men and the public, the doctor and the patient, has not been severed. This is the peculiar feature of American, as it is of British, medicine. Anglo-Saxon medicine has never forgotten that the aim and end of all medical science is the treatment and healing of the sick, and that every special study is but a means to obtain that end.

Thus our Academy is not to be the centre of a select few, who speak to the rest of mankind through their writings only, but of all who love their science and live the lives of respectable practitioners. All ought to be members. I have often been told, however, that the large number of societies prevents men from becoming members in the old and large ones. That is so. There is too much division and subdivision. But that is not the fault of the Academy. Under other circumstances the Obstetrical Society might well have been a section of the Academy; the laryngologists, otologists, ophthalmologists, dermatologists, might have their own sections under the auspices of the Academy, though under their own rules, their own officers, and, while doing the same amount of good work, not lose their connection with the main body. The large societies, such as the Academy, or the American Medical Association, or the German Association of Physicians and Naturalists, lose by the secession of important branches and their representatives. The unity of medicine is lost sight of, and the interests of science and the profession are suffering. Instead of one or two, every section of this Academy ought to be flourishing. Let us hope they will. We have been told to-night that there was more than an abundance of papers offered. Our rooms they are welcome to. Though we have to think of some time increasing our facilities, we can still accommodate them, and others besides. Indeed, most of the medical societies of the city would do well to avail themselves of the home the medical profession of the city have found in this hall, and meet here.

The peculiar features of this Academy I have mentioned, permit of varied results. The mixture of the best brains of the profession and the modest practitioner is

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capable of raising the standard of the average professional man far beyond the level of the European medical man, frequently in knowledge, always in industry and ambition and ethics, without interfering with the individual and original labor of the hardest workers and best thinkers. Have we been successful on this side of the Atlantic?

They say we have no John Hunter. All Great Britain, in all its pride, has but one. No Bichat or Laennec. All the glory and elegance of France have but one. No Virchow. All the centuries of toiling and philosophical Germany have produced but one. What we do have, however, is a medical profession with unbiassed minds, clear insight, critical eyes, undaunted industry, and that republican courtesy which recognizes—*suum cuique*—the peculiar advantages and services everywhere, and the democratic tendency of appreciating and appropriating the intellectual accomplishments of the globe, and of utilizing them for the practical necessities of the commonwealth.

Besides, we do not live in the backwoods or in the darkness. As long as the Confederation and the Union have been in existence, their medical men have been, to say the least, marching in line. In what the Anglo-Saxons have known and taught, they have both participated and co-operated. Without the counting in of the original American contributions to science, the history of modern medicine would be incomplete indeed. Let Europe boast of its great names: this young community has the heirloom of the great names of Bard, Rush, McDowell, Drake, Beck, and and many others of *past* years. Let the history of this Academy be written—and a grateful and gratifying labor it would be—and the array of great names is such as to astonish many of the young men in this room, who unconsciously and unconcernedly toil over the graves on which are inscribed the names of men great in literature, or achievements, or influence, great in mind and character. Let me mention a few of those who have passed away. I have known personally, and conversed and discussed with, John O. Batchelder, George M. Beard, Gunning S. Bedford, Ch. A. Budd, Gurdon Buck, H. D. Bulkley, William

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H. Van Buren, Freeman J. Bumstead, Henry G. Cox, George T. Elliot, John W. Francis, Edward Delafield, Elisha Harris, Horace Green, Ernst Krackowizer, Valentine Mott, Josiah Clark Nott, Edmund R. Peaslee, Willard Parker, J. Marion Sims, Joseph M. Smith, Alexander H. Stephens, James Stewart, John Watson, Robert Watts, Isaac Wood, James R. Wood. Many of these names are known wherever medicine is taught and practised; some of them will never die. This Academy will always cherish the names of its members who contributed to the glory of universal medicine and the American country.

When I, and those as old as I, knew these men, most of them were in advanced years. At that time the proportion of white heads was very much larger than it is to-day. I venture to say that it was for the good of the Academy that that was so. Neither the political republic nor that of science can thrive without the co-operation of all. At that time the number of older and old men was such as to draw forth sometimes the remark of some class of young men that the Academy was the headquarters of old fogies, and for that reason might be avoided and shunned. Much has been changed in this respect. Curly heads and young faces are plentiful—a good sign indeed for the energy and activeness of the growing generation. Many white beards, however, and bald heads have commenced to stay away for years—a proof indeed of the increased claim on their time and strength, but we fear also, now and then, of listlessness and indifference.

This ought not to be so. Neither in politics nor in science does age extinguish citizenship with its rights and duties. Besides, I know that the best trained young minds are modest enough to admit that they are able and anxious to learn from those whose opportunities extend over a long number of years, and that books, brains, and experience are a greater power than books, brains, and inexperience.

These remarks I make for the purpose of requesting the older members of the profession not to withhold their presence and aid. Among them are men widely known in both hemispheres. When they write every one reads, both here and in Europe. Let them not forget that a vast audience

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is just as anxious to hang on their lips when they either lecture before us or take part in a discussion. Both their teaching and example are wanted by the rising generation of our younger brethren. They will teach them both medicine and modesty. May nobody who neglects his own duty toward them and the profession at large accuse a young man of forwardness. Some of them have indeed reaped a good harvest from living up to their duties as citizens of our republic of science. For if there be a fountain of youth for old men, it is the constant mixing and working with the young. The Nestor of our surgeons, whose face we greet with joy in almost every meeting, and whose voice we are delighted in hearing in our discussions, proves better than any preaching the powerlessness of so-called old age.

The hosts of others, general practitioners and surgeons and specialists, whom we like to boast of and to honor, will always be welcomed by all of us, both old and young, to seats in the front ranks. If they will consent, not only our scientific but also our public aims will be more apt to be reached.

For our position is that of natural advisers in all matters concerning sanitation and health. The larger the number of our members, the more we represent the best minds and all ages in the profession, the more readily the public and its legislators will listen to us. When they know that our advice will be the digest of the best knowledge and the ripe wisdom of the profession, they will not wait until it is forced upon them. In matters of health the two large medical societies of the city ought to be, will be, the authorities. If that be so, it will no longer depend upon a number of ladies only to remove intolerable nuisances from the heart of the city. The simple appeal of the profession will become the protection of the public. The latter will soon learn that it can rely on your knowledge and public spirit, and, as it calls on the bar for legal advice, it will consult the medical profession for sanitary necessities. In this way it will happen that some time the president of the Board of Health will be nominated or appointed by the profession; that no Board of Education, no Board of

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Charities, will be complete without a prominent medical member; medical bills will pass the Legislature when backed by the whole power of the profession, without either delay or mutilation; the supervision officers of factories, nurseries, streets, baths, gas houses will be physicians; aye, the most improbable thing will happen, which is this: that the public will acknowledge that the government of hospitals ought not to be without medical advisers in their boards. In order, however, to accomplish such results, we must unite our numbers, powers, and influence. The public and legislatures will respect and obey the regular medical profession more eagerly than the advice of individuals or societies. It gives me great pleasure, in this connection, to be able to announce to you that the representatives of the profession of the State agreed but yesterday on a bill to be presented to the Legislature, ordering a Board of State Examiners destined to license the practice of medicine. The unanimity of action in this respect on the part of apparently diverging and conflicting interests is a good omen, in this progressive State, for the growing influence of the medical profession. Thus far the State Medical Society has done its part of the work nobly; now, may everybody see to it that the Legislature of the State be kept well informed and well advised.

The practical tendency of this Academy corresponds with the peculiar nature of the development of medicine in the English-speaking nations from the last century onward. Even the most fragmentary study of that development is of great interest indeed. Altogether, medicine in the eighteenth century exhibits a peculiar character. It is true that knowledge was not widespread, but the heads of the profession were capable, painstaking, searching, cool-headed men, good observers and excellent describers. There was a large number of good monographs, excellent histories of cases, and fair diagnoses of the general condition of the patient. Local diagnosis, it is true, was mostly out of the question, since no sooner than in the second half of that century Morgagni collected in his illustrious work, "*De Causis et Sedibus Morborum*," all of the only three thousand post-mortem examinations which had ever been

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recorded in all ages and countries. Their judgment was sound, their therapeutics—though often exuberant—safe. As the scientific language of most of them was the same—Latin—their spirit was not local nor national. The same class of men were found in Germany and the British possessions; also in Holland and France. In the former we meet the names of Werlhoff, R. A. Vogel, Zimmermann, Lentin, Van Swieten, J. P. Frank. There was also Auenbrugger, who ought not to have been so readily forgotten. In Great Britain there were Mead, Huxham, Fothergill, Pringle, Heberden, Monroe, Home, Cullen; there was that giant, John Hunter. In America we had Bard and Rush. In France, Levret. In Holland, at an early date, Boerhaave. The only fanatical theorist of all the English writers was John Brown; the only obscurist, who ought to have had a place in Germany between 1800 and 1840, was Robert Jones with his "Inquiry into the State of Medicine on the Principles of Inductive Philosophy" (1782). When Broussais reigned supreme in France his doctrines were welcomed by a great many in England. But the Anglo-Saxon mind is not easily drawn away by theories, and there is after all more solid work in Broussais than wanton theory only. Thus the English literature of the early part of this century teems with good observations and monographs by many more than those I here mention—Travers, Williams, Crawford, Astley Cooper, Brodie, Bell, Abercrombie, Cheyne, Pitcairn, Bright, Hope, and Carswell.

Of French names I have mentioned but one.

The redemption of France, after a century of almost unparalleled corruption and misery, begins with its great Revolution. Never before did fate grant to an unhappy nation a larger number of great spirits, both in politics and science. The faint impression the freer institutions of the British Island made on French literature would not have influenced the development of the country for centuries to the same extent as did the necessities of the population. In the history of political and mental development changes more or less sudden or gradual appear to be the rule; rise and decline change off, as the fertility and sterility of a cornfield. The fertility of France lasted a long

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time. While the greatest man in its political world could not do better than spread all over Europe part of the results of the French Revolution through violence and murder, a young scientist revolutionized medical science by genius and hard work. That is what Bichat did when he studied the physiology and pathology of the organic tissues. Since that period France has marched at the head of medical science for about half a century. Pinel, Corvisart, Cruveilhier, Biett, Cazenave, Gilbert, Laennec, Ricord, Civiale, Guérin, Guislain, Baillarger, Leuret, Longet, Guersant, Taupin, Valleix, Legendre, Dupuytren, Trousseau, Rilliet, Barthez, Durant-Fardel, Orfila, Louis, Broussais, Piorry—what a host of illustrious names, and by far not the only ones who will recall the glory of the French nation when there will be no longer a political France! It is true that a decline has set in. The number of really great men in modern French medicine is but limited. Charcot's name overshadows the reputations of all others, and, it appears to me, will live for centuries. Maybe also that Pasteur will be recognized as a fixed star in the scientific sky, if he will succeed in divesting himself of the doubtful attributes of polemical tendencies.

After Bichat there are three French names connected with the history of medical sciences in all countries. Laennec's revolution of diagnosis by percussion and auscultation is not any the less important and precious because Auenbrugger had worked in the same field more than half a century previously, for no other result than complete oblivion. Magendie's experimental physiology and pharmacology have benefited all mankind. His is the introduction of alkaloids, such as quinine, veratrine, strychnine, piperine, morphine, emetine—his the successful admission of bromine and iodine into practical therapeutics. Finally Broussais, by overthrowing ontologies—though he created one of his own—by localizing disease, by urging prevention and abortive treatment, by studying the anatomical lesions of pathological processes, he substituted a method of anatomical thought in diagnosis for the merely clinical and empirical observation of the sick, and thus been the intellectual author of that method of medical knowledge

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and reasoning which is best known by the name of the Vienna school. I shall have to consider its representatives shortly, with all its virtues and faults, both of which were learned and loaned from the illustrious Frenchman. For not only did he convey to them his anatomical way of thinking, but he also taught them to be satisfied with coarse local anatomical lesions and with a nominal diagnosis, adding the assurance that those lesions must lead to death; that, indeed, the case is either getting well spontaneously or is absolutely hopeless, and that a treatment of any kind is powerless.

The parallelism of political and scientific conditions which strikes us so admirably in the history of French development, after the impulse given by the Revolution, is sadly illustrated by poor Germany. The country, poor and forlorn, divided into hundreds of shreds, large and small, tyrannized and robbed by hundreds of dukes and bishops, and princelings of all sorts, every one the inferior in mind, but the emulating admirer of the tendencies of that despotic Frederick the Second of Prussia, in whom it requires the equally despotic soul of a Carlyle to find nothing but admirable traits—that country had, about the end of the eighteenth century, one representative in medicine corresponding with the character of the time. Hufeland was a fair observer, a copious writer, an influential man, but weak and accessible to everybody and everything. It was he who admitted the first Hahnemannian gospels to his journal, and who was of the wise opinion that there may be something good in everything. Then came the French, and whipped the Germans out of political existence. Then the wars which expelled the French, bloody, costly, and short, aroused a peculiar romantic fanaticism which pervaded the whole literature of a short decade, and could but have an unfavorable influence on science. Then came decades of brutal political reaction and suppression, the scanty means of the nation being spent on police, military, and dungeons, in which the flower of the country, and particularly of the universities, was incarcerated. During that time German thought had no place in terrestrial parts; even before that time Schiller had pro-

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claimed man "free though he wore chains." This sort of freedom the Germans utilized to become transcendentalists. The principal method of studying nature was imagination. Even Kant, the mathematical thinker, had taught them the art of construing things *a priori*. Then came Schelling with his system of natural philosophy; and Hegel, who wrote twenty big volumes, and is reported to have said on his death-bed that in all his life he had but one pupil who understood him, and that one did not know anything about him. Under the influence of these philosophical absurdities no medical science could thrive. That was the time of animal magnetism and cranioscopic humbug.

In such a condition of universal intellectual semi-paralysis and revelry in big words and clouded sensations of all kinds, combined with the insensate and murderous character of therapeutics, it was natural that homœopathy could thrive, with its axioms that disease was an enemy from without, the result of psora or of medicines; that nature was an enemy of man; that nature will not cure a disease, but a medicine will; that no medicine will cure which can be shown by any physical or chemical analysis to still exist; that its dynamical power increases with its attenuation and annihilation. That was the time in which one of the great lights of German medicine defined inflammation as the condition in which the "electrical essence (or part) is affected in the dimensions." Marcus never said that he understood that himself. At that time the medical literature of Germany was full of such philosophizing nonsense; full of contempt of the unphilosophical foreign countries; of Bright, with his British coarseness which studied nature as it was; of Laennec, whose percussion and auscultation were declared to be immoral and irreligious. My beloved teacher, Prof. Fred Nasse, though all his life a believer in and author on animal magnetism, was one of the first to utilize Laennec's great innovation and the lessons of foreign teaching. Even Schönlein, though it was he through whose influence young Virchow, after he had been expelled from Berlin for his liberal political views, was called to Würzburg to teach pathological anatomy, could not free himself from the influence of philosophical doc-

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trines. At that time the science of therapeutics consisted indeed in nothing but empty words; its practice, to a great part, in the traditional blood-letting, salivation, and purging. Thus it was that the fanatical hydropathists and the adversaries of vaccination could obtain such rare opportunities and successes; thus that, but forty years ago, Rademacher could divide all ailments into saltpetre, copper, and iron diseases, for the reason that each one of these remedies cured one-third of all the ailments of German kind.

Schönlein and Liebig having prepared the medical minds, and the influence of foreign literature being gradually felt in Germany and Austria, it so happened that Vienna had in its faculty of medicine quite an array of medical genius. Rokitansky, Skoda, Hebra, have long reigned supreme. Broussais' doctrines, good and bad, were readily accepted; his ontological gastro-enteritis was replaced by Rokitansky's doctrine of the crases of the blood, thus re-establishing the old humoral theory on an apparently firmer foundation. In Rokitansky's opinion the anatomical changes were the only things in medicine worth knowing. Skoda, for some time, experimented carelessly and unsuccessfully with remedies; his ill-success and Rokitansky's teaching confirmed the nihilism of Broussais, against which Laennec protested in France, and made the expectant treatment and the nihilistic faith the gospel of German practice.

"This was the medicine—the patients' woes soon ended,
And none demanded: Who got well?
Thus we, our hellish boluses compounding,
Among these vales and hills surrounding,
Worse than the pestilence have passed.
Thousands were done to death from poison of my giving;
And I must hear by all the living
The shameless murderers praised at last."

But in Goethe's "Faust" this is said by an incorrigible philosophical roué who is ready to give himself up to the devil, and in Germany it had the result that the public, who have a right to desire to be cured when they fall sick, preferred the homœopathic pill box to the pathologist's post-mortem case.

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Not long after, Oppolzer, whose name ought to be blessed forever in Prague, Leipzig, and Vienna, began his influential career. In him Germany possessed its first great physician in this century, who knew pathological anatomy perfectly, was a thorough diagnostician, a humane physician and amiable teacher, who recognized the social, scientific, and humane duties of the practitioner, abhorred preconceived ideas and *a priori* constructions, acknowledged principles and facts only, and no duty but to find the truth.

It was about that time that Rudolf Virchow commenced to revolutionize medicine. Modern medical science owes its solid foundation and elaboration to him and his followers. The book of medicine of to-day, and, I trust, of the future, bears the imprint of his genius on every page. We all have read and admired and praised, knowing that when we readily place Germany in the first rank of the medical world to-day, the name of Virchow is in every mind and on every lip. This brief sketch cannot do him justice, nor do I desire to elaborate a theme with which every one is familiar. But one remark I cannot suppress—viz., that he is not only great in his revolutionary discoveries and innovations, but in his self-denying conservatism also. If the bacteriomania of modern times has not been accepted uniformly as the universal gospel of modern pathology, if thoughtful hesitation and healthy criticism is still heard above the noisy waves of the seas of all-explaining and all-saving theories which claim to have given, at last, an absolutely solid base to etiology and pathology, that merit again belongs to a great extent to Virchow. I speak of it here because I hope that this Academy may be able to contribute to the solution of questions of great import by original studies and discoveries.

For there was lately a time, or, rather, we still live in that time, when a single series of discoveries lays claim to having changed the aspect of pathology at one stroke, and solved all problems. You know I speak of bacteriology. In America, also, all of those who cannot judge of the question by their own investigations—that is, the practitioners, either general or special—have readily accepted the new gospel, with but few exceptions. The new theo-

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ries, that infectious and zymotic diseases have each their own bacillus, are so pleasant and promised to be so fruitful that it required some courage to critically resist the flood. On the other hand, those amongst us who have a right by their own researches and special knowledge to be heard, have hesitated to accept the results of microscopical, actual or alleged, discoveries as the sole explanation of everything infectious and zymotic. Amongst them I shall only name Wood and Formad and Sternberg. Into the merits of the case and the weighing of reasons I cannot go this evening, but it has appeared to me that it would be well to direct the attention of the Academy to that subject as one greatly deserving of its attention.

To me, while I readily acknowledge a valuable increase of pathological knowledge, and the fact that the spreading of some diseases at least, slow and gradual and regular, seems to prove the multiplication of cases of disease by the regular multiplying of its causes, it has always appeared that purely bacteric etiology has too often begged the question, and that the answer to the question, whether organic or chemical poisons are the main causes of infectious diseases, has by no means been satisfactorily given. In the course of the last dozen years organic chemistry has made as rapid strides as has microscopy. Cadaveric poisons—ptomaines—have been discovered in great numbers. Most of them are very destructive. Sudden deaths from zymotic and infectious diseases resemble much those produced by these poisons. That the stings of insects or the poison engendered in putrid corpses lead to speedy destruction has always been known. The symptoms are exactly like those produced by many known poisons. Forensic medicine has a great many instances already in which it could be proven that the poison extracted from the body of the dead was not a vegetable agent introduced during life, but the cadaveric poison. Count Gibbone was said to have been murdered with delphinine. Prof. Selmi proved that what was claimed to be that vegetable poison was cadaveric. In another case he saved the life of a suspected person by proving that it was not morphine, but ptomaine, which was found in the body. Besides the poi-

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sons named there is strychnine, colchine, atropine, conine, woorara, nicotine, veratrine, hyosecyamine, narceine, the symptoms and chemical reaction of which are the same, or almost so, as the cadaveric poisons. Lecithine is found in putrid fish; a very dangerous chemical poison has been extracted from putrefying Indian corn and rye. Thus it is that many cases of poisoning with cheese, meat, fish, sausage, jelly, and yeast, many of them resembling acute infectious fevers, may find, and indeed have found, their ready explanation.

Brieger found quite a number of different varieties of cadaveric poisons—neuridine, neurine, muscarine, æthylen-diamine, gadinine, and others. Many of these destroy life in a short time, and with the symptoms of acute infectious diseases. These poisons are found, in many instances, in the fresh dead body, not in that one which has undergone complete putrefaction. The results of putrefaction will, after a while, change entirely and become rather wholesome than injurious. Many years ago Salkowski examined a vessel full of ascitic fluid, which he knew to be in utter putrefaction when he last inspected it. Not only was there no putrefaction any more, but, on the contrary, chemical decomposition had formed phenol. Thus putrefaction had worked its own destruction and antidote. The inference, then, is that poison, even in the course of the same disease, may not always be found.¹

¹ Would it be so impossible to judge that the bacterium is an accompaniment of a chemical poison, and may be present or absent, according to the changed condition of the poison? Such changes take place all the time in putrefying material, as Salkowski has shown, and others after him. They probably take place in the living body also, during infectious fevers. In the incubation they develop, they are most poisonous and vehement during the height of the process; they gradually change into less dangerous combinations, into an indifferent state, and finally a really disinfectant material. Thus it may be that the floating poison may become even beneficial. Is it for that reason that patients who have outlived a serious attack of typhoid fever are endowed with better nutrition and more vigor afterward than they ever enjoyed before?

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Ptomaines are often met with in the presence of bacteria. Is it the latter which produce them? Do they so decompose the albumen of the tissue that a ptomaine must or can develop? Or is it their own vital change which produces it? Most modern writers—not chemists—believe it. But if the cause of decomposition of the living or dead be not bacteria, but a chemical poison after all, is it necessary to assume that the poison cannot form except through and with the presence of bacteria? And is the bacterium the only poison, or the only source of the poison?

If deadly poison, such as we know to destroy life suddenly, or almost suddenly, and of such virulence as is reported in what was formerly believed to be legendary only, but which may be historical, will almost invariably originate in the dead body, is it so impossible that it may develop in the still living under certain circumstances? Have we not had enough yet of the monthly instalments of new bacilli which are the invariably correct and positive sources of a disease, and replaced by the next man who comes along? Have we not yet enough of the statements that, as for instance, several bacilli are claimed each to be the only cause of diphtheria, by several observers; that there may be several distinct bacilli, every one of which can produce the same scourge? Is it not just as safe to still presume that, when several forms of bacilli are believed to be such sole causes, that the real cause is in neither?

Exactly so, neither in one nor in the other, notwithstanding it all appeared settled. For our journals are replete with the very latest authentic bacterium of diphtheria. This time it is neither Klebs nor Eberth, but Löffler. Reports, discussions, and even editorials carry his name over the world. The very nature of diphtheria is said to be revealed again, as several times before; still, the discoverer admits that there are cases without the bacterium.

The matter is becoming ludicrous. I begin to fear something like the recent rebellion against piano-playing in a large European city. Is not music a godly art, and the piano a blessing to the musician? But the playing of fifty thousand beginners in a large city is a nuisance. When bacterio-microscopy in the hands of beginners be-

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comes moisy like piano-playing—noisy in books, pamphlets, and journals—a gentle protest is permissible. That protest is not meant for the masters who know how to wait and to mature. I do not speak against Robert Koch and his peers, who all of them are more modest than their followers. When the kings build, the cartmen are kept busy—and boisterous.

A dozen years ago the coccus of whooping cough was said to be discovered. There was no doubt about it. There was whooping cough, there was a coccus; what was plainer and more conclusive? To cure whooping cough, nothing is required but to kill the coccus. Quinine will kill a coccus, quinine cures whooping cough. Since that time there is no more whooping cough in existence; or, if a case would be malevolent enough to turn up, it could not last longer than until a few whiffs of quinine can reach it. That is ludicrous, is it not? But it was preached like gospel, and it was believed. Many more such have turned up, and will turn up, for coming years to smile at.

There is a peculiar feature in this bacteriomania. Its principal impetus it received in Germany at a time when great changes had taken place in its political and financial affairs. All at once there was an Empire, of which historians so much spoke, youth so much dreamed, romancers so much fabulated. All at once, at the same time and a decade before, an unusual industriousness, commerce, enterprise, and unwonted wealth, and still more expectations than wealth; all at once an influx of five thousand millions of francs, not earned by honest work, but conquered by war, which could not but turn the poor heads and unstable the solid foundations of regular development. From that time dates that lack of safety and steadiness in German financial circles. They have even invented a name for that period of swindling—"gründerthum." Speculation was rife—fortunes were made in a day from nothing but self-assertion and daring, and lost as quickly.

The moral and intellectual atmosphere created by these tendencies is never breathed by one class of people only. If self-assertion can make a fortune in finance, why not in science? If a reputation may perhaps be made by a

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stroke of chance, why not try that chance? Speculation was rife. Any young man can look through a microscope—perhaps he will draw the prize in the lottery of alleged science. Looking would be all right, if he would not write. Medical life would be easier if there were less journal articles containing the latest infallible discoveries. Thus it has come to pass that German medicine has a twofold aspect nowadays. The days of her superiority are not over yet; her greatest men still live, and the toiling thinkers are at work, but the number of speculators is immense. A great many of the articles printed in the journals of the last ten years have been prematurely published, the number of preliminary notices announcing discoveries under way is very large. The great embryo cannot wait. He is afraid of having his celebrity snatched away from him by the next-door microscopist.

Thus it is that we often find a difficulty in keeping our eye on the great lights, whose rays are always welcome. If learned and thoughtful specialism has its justification anywhere, its field is the solution of the mooted questions alluded to. Thus far I claim, however, that in regard to bacteriology the main questions are before the medical world still. I firmly hope the Academy will prove the centre of critical researches by which the problem, whether bacteric or chemical poison, still a mystery, will be carried near its solution.

In this expectation I am justified by a reference to the historical fragments you permitted me to sketch to-night. There has been no deviation from the empirical and clinical tendency of Anglo-Saxon medicine from the beginning. It was so strong that it gave character to the medicine of the eighteenth century. In the words of the Testament I might say, Sydenham begot Boerhaave, Boerhaave begot Van Swieten, Van Swieten begot John Peter Frank. Sydenham and his generation of followers are the flower of the whole century, and their spirit penetrates everywhere. In those times the senses alone were the diagnostic apparatus. The exact methods of the following decades have sharpened the senses of the English and American medical men, and render their observations more accurate

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and their results more correct. Live and learn has been their password. No new methods have ever been neglected, only unfounded theories ought not to find root in the regular medical profession. As the best features of all experience and wisdom of all ages and all nations have been utilized in the establishment of our political system, thus the American medical mind has received, appropriated, and critically digested the results of foreign scientific labor and added of its own. It is with sincere pleasure that I have again read that interesting collective volume containing a century of American medical history. In it those of you who have not read it will find many a good reason to be proud of the achievements of our country. It is so modest in its tone and contents that many more names might have appeared in the enumeration of men and labors, not to speak of those who have added materially to our wealth of intellectual productions since. Its perusal will be a revelation to many who are in the habit of looking for everything new and trustworthy, and—that is the technical term nowadays—epoch-making, only abroad. If there is anything which teaches us both justifiable pride and desirable modesty, it is the history of our science in our own country. For, besides a great many of the former and present members of this Academy who have accomplished lasting results, there are a great many other Americans in other States and cities who stand on a level with the best of all nations.

From the reading of old journals I learned but lately that four years before Semmelweis proclaimed the contagious character of puerperal fever, against the protest of the official standard bearers of obstetrics in Austria and Germany, our own anatomist, our philosopher, our poet, our Autocrat, our own Oliver Wendell Holmes, taught, it is true against the ridiculing sneers of Hodge and Meigs, the frequent transmission of puerperal fever by physicians and nurses. I might go on a long time, but I do not stand here to extol America or American medicine. Still I feel strongly that we may be well satisfied with what we, not protected by governmental interference, unaided by a slow growth through centuries, have accomplished in a propor-

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tionally short time. The last few decades gave us the library of the Surgeon-General's Office, the "Subject Catalogue," "The Medical and Surgical History of the War," standard books, recognized as such in Europe, great journals, and a goodly array of valuable monographs, and vastly improved college education; they have raised great surgeons and clinicians of universal reputation, and a progressive profession whose aim and best efforts are directed toward the improvement of medical training and of the sanitary condition of the people.

All this I firmly believe is true. If it were not, let us make it so. If it be, let us still rise and work, and with all that let every man among us feel what Holmes said forty years ago: "I am too much in earnest for either humanity or vanity."

ADDRESS TO THE NEW YORK ACADEMY OF MEDICINE

Fellows of the New York Academy of Medicine:

It is a source of intense gratification to me to greet you this evening in the beginning of a new season of co-operative work, after a long vacation. May the labor of the coming months be successful, both for ourselves and for the medical world! *Ars longa, vita brevis*. Art is so extensive, indeed, and life so short, that we have to concentrate all our efforts to accomplish a certain amount of results.

In behalf of our common interests I crave your attention, first, to a few facts which I consider of great importance in regard to medical progress. They are connected with the session of the International Congress held in Copenhagen from August 10th to 16th, 1884. In a general meeting held on August 14th, upon propositions made by Sir James Paget, of London; Prof. Ewald, of Berlin; Prof. Bouchard, of Paris; and Dr. Billings, of Washington, the following resolution was passed: That an International Committee be formed for the Collective Investigation of Disease, in connection with the work of the International Congress, and that a certain number of gentlemen do represent their respective countries thereon. The gentlemen designated for that purpose were Trier and C. Lange, of Copenhagen; E. Bull, of Christiania; Rauchfuss, of St. Petersburg; Ewald and Bernhardt, of Berlin; Schnitzler, of Vienna; Pribram, of Prague; Koranyi, of Buda-Pesth; D'Espine, of Geneva; Bouchard, of Paris; Lepine, of Lyon; Sir William Gull and Mahomed, of London; Humphrey, of Cambridge; Sir Joseph Fayrer, for British India; Gutierrez-Ponce, for South America; N. S. Davis, of Chicago; A. Jacobi, of New York; and Isambard Owen, Secretary-General, of London. The only

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changes which have since taken place in the list of membership have been brought about by the untimely death of Dr. Mahomed, and the addition of Axel Key, of Stockholm, and Runeberg, of Dorpat.

According to a circular distributed by the Secretary-General some time ago, the main objects which the Committee seeks to attain through the Collective Investigation of Disease are to broaden the basis of medical science, to gather and store the mass of information that at present goes to waste, to verify or correct existing opinions, to discover laws where now only irregularity is perceived, to amplify our knowledge of rare affections, and to ascertain such points as the geographical distribution of diseases and their modifications in different districts. It will be its endeavor to place clearly before the whole profession the limits and defects of existing knowledge, as well as to stimulate observation and to give it a definite direction. It will be a not unimportant incidental result of its work should it tend, as is hoped, to the better training of the members of the profession in habits of scientific and practical observation and in systematic methods of recording the facts which they observe.

The age in which we live has seen enormous advances in the sciences on which the fabric of medicine rests, such as chemistry and other branches of physics, physiology, and pathology. Each of these has taken giant strides. It must be admitted, however, that purely medical knowledge has scarcely made proportionate progress. It cannot be expected that it should do so, as it deals with the aberrations of the most complex of organisms, is of all sciences the most difficult, and demands the greatest patience and the largest accumulation of data.

Hitherto the advancement of medical science has been brought about mainly by individual effort. The value of such work in the past we in no way underrate, nor do we desire to lessen the amount of it in the future; but in medical science there is much that defies interpretation from individual experience, and many problems so far-reaching in an ever-widening field, with elements so manifold, that no single man, however gifted and long-lived, can hope to

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bring the whole within his range. The need, therefore, in medicine, of that combination and concentration of individual work which is adopted in many other branches of science and in commerce, and to which increasing facilities of intercommunication have given so much impulse and so much strength, cannot be questioned. Indeed, it may be said that, resting on individual research alone, medical knowledge can be advanced but slowly and with difficulty. Future progress to any great extent must be the work, not of units acting disconnectedly, but of the collected force of many acting as one. For many to act as one, organization is needed; that organization it is the purpose of our committee to supply.

Disease is many-sided, and we wish to include in our organization those who see it from every side. All, therefore, whether hospital physicians, family and school attendants, specialists, medical officers of the army and navy, and of workhouses and asylums, will be asked to contribute their quota of observations to the common fund.

These are both the motives and the propositions of the committee appointed at Copenhagen. In regard to them, and collective investigations in general, the favorable opinion of the profession has been expressed frequently. But now and then a voice is still heard disparaging its utility, and discouraging the collection of facts on a large scale, for the reason that the procedure has not yet been demonstrated to be useful. Indeed it has not, for it has never been tried to a large extent. We shall hardly insist, however, that the ground stone must not be laid because the tower is not yet on the edifice; that the seed must not be sown because the fruit cannot be harvested to-day or was not gathered yesterday.

Hesitation has also been expressed from another point of view. One of our foremost medical journals (the *Boston Medical and Surgical Journal* of September 4th, 1884) makes the remark that those who labor only for personal renown will not enter enthusiastically into the work proposed by the committee. But its demands are very trifling indeed; the questions to be settled by the observations of large numbers are but few and of such a nature as not to

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expropriate those who are able and anxious to arrive at, and be credited with, scientific results of their own and benefit by the reputation attached to them.

If the remark above quoted were founded on reality, whoever worked for personal reputation only would not even participate in the discussion of a scientific society, for fear lest his remarks, coupled with the essay of somebody else, would miss the opportunity of being listened to as the main topic of an evening's conversation. Now, on the contrary, we are in the daily habit of seeing experience published and ingenuity displayed in just such discussions. Nor do I believe that, as another journal has it (the *New York Medical Journal*, September 4th, 1884), that "the answers coming from a great body of men of diverse views would constitute but a catalogue of raw impressions," and that "when the facts to be observed are of a nature to call for exquisite discrimination on the part of the observers, to multiply the number of the observers is to depreciate the general quality of the work." For the more uncertain the correctness of observations is apt to be, the more numerous they ought to become. Single observations have settled a fact but very rarely. The very existence of large societies proves the instinctive demand for variety and comparative appreciation of observations. Is not every physiological fact known to us as the outgrowth of a number of experiments of many men, and pathological knowledge the result of a great many autopsies by different men in many countries? What is individual experience but the accumulation of a multitude of facts of a similar nature by one man? What is science but the result of accumulated experience, collected and compared, of many men, countries, and ages? Are a hundred meteorological stations more efficient, or less so, than none would be? I do not belong to that class who believe a problem easy of solution merely because its solution is anxiously sought for, nor do I deny difficulties because they are obstacles to the accomplishment of cherished ends; but I know that we are in a better position to serve the co-operative work of all countries, now that steam and telegraph have reduced distances, mail and travel have muti-

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lated intercourse, and we are to-day as near St. Petersburg as our ancestors were, a hundred years ago, to Lake Erie or the James River.

Thus it appears evident that the difficulties are not excessive. As to the usefulness of collective investigation the opinions will become all but unanimous. The efforts of the British Medical Association and the Medical Society of Berlin, and the fair success of an attempt at solving a problem connected with the etiology of croupous pneumonia, made in the Medical Society of the County of New York during the last year, are sufficiently promising for the collective investigations of the future. In their interest it is that I propose to make a further communication and request your co-operation.

The Central Committee on Collective Investigation of the International Congress has selected the following subjects, viz., rickets, chorea, acute rheumatism, and cancer, planned a number of simple questions in regard to them, mainly to their etiology, and expects as simple answers. Being the Secretary of the American Subcommittee, I have gathered all of them in pamphlet form, added a few introductory general remarks supplied by the Central Committee, and present herewith a specimen for your inspection. Those of you—I hope all of you—and those of the profession at large who will learn of this request, are respectfully asked to interest themselves and their friends in behalf of the undertaking, notify me of their desire to be furnished with a copy, and comply with the suggestions of the Committee contained therein. We do not look for immediate achievements. For the complex of sciences and arts called medicine has required thousands of years to arrive at its present condition; the aggregation of many wills and forces has resulted in a slow evolution only. No single discovery even, nor the first attempts at collective investigation, will effect a revolution in medicine. But what we do hope to accomplish is the gathering of facts on the strength of an improved method, the confirmation of old and the acquisition of new knowledge, and thus to contribute to the success of at least this one Committee. It need not matter how much may have, nay, has been done

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to mar the success of the next International assembly, and to deprive us of the opportunity, long looked forward to, of greeting the giants of science, the celebrated teachers, the ingenious experimenters, and our literary or personal friends of Europe, on our own soil. For an International Congress will never convene under the roof of a house divided in itself, though the division may be the work of a few sacrilegious hands only.

But this is a sad theme, known to everybody here, deplored by everybody who feels as both a personal grief and a public calamity the humiliation which is involved in the hesitation on the part of the International Congress to assemble in our country.

It is in profound sorrow that I pass by the subject; I prefer to speak of another topic which, while it is not directly connected with any of the aims and immediate purposes of this Academy, concerns us as professional men of the State of New York and the Union. I allude to the almost unexpected success on the part of the profession of the State of New York in harmonizing a large majority of the medical men of the United States.

Let me explain. Chapter II., Art. IV., Sec. I of the Code of Ethics of the American Medical Association reads as follows: "A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner who has a license to practice from some medical board of known and acknowledged responsibility recognized by their association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultations when it is requested by the patient. But no one can be considered as a regular practitioner, or a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the

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aids actually furnished by anatomy, physiology, pathology, and organic chemistry."

This paragraph has been so often criticised by both friends and adversaries that it is unnecessary to refer again to its contradictions, its "nevertheless" and "but," and to its implied acknowledgment of modern "homœopathy." For let us not forget that the Code of Ethics of the American Medical Association saw the light forty years ago, and that what they call "homœopathy" nowadays differs from Hahnemannism of those times in everything but the name. They now claim that their practice is not based on an exclusive dogma; they claim to teach in their schools, and do teach, anatomy, physiology, pathology, and organic chemistry, and thus come up to the requirements of the above article of the Code of Ethics of the American Medical Association. Indeed, if there were no better grounds for their rejection they would to-day be entitled to membership in the Association.

What the Medical Society of the State of New York, in its sessions of 1882 and 1883, adopted in its stead (Transactions of the Medical Society of the State of New York for the year 1882, page 75), in a code of medical ethics which covers two pages instead of the eighteen pages of the Code of Medical Ethics of the American Medical Association (Proceedings of the National Medical Conventions held in New York, May, 1846, and in Philadelphia, May, 1847, pages 91-106; Philadelphia, 1846), reads as follows:

"Members of the Medical Society of the State of New York, and of the medical societies in affiliation therewith, may meet in consultation legally qualified practitioners of medicine. Emergencies may occur in which all restrictions should, in the judgment of the practitioner, yield to the demands of humanity."

Compare with these brief sentences the explanatory declaration of the American Medical Association, passed unanimously in its session at New Orleans of April, 1885. Then and there it was

"*Resolved*, That clause first of Article IV. in the National Code of Medical Ethics is not to be interpreted as

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excluding from professional fellowship, on the ground of differences in doctrine or belief, those who, in other respects, are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said Code of Ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

“Resolved, That it constitutes a voluntary disconnection or withdrawal from the medical profession proper to assume a name indicating to the public a sectarian or exclusive system of practice, or to belong to an association or party antagonistic to the general medical profession.

“Resolved, That there is no provision in the National Code of Medical Ethics in any wise inconsistent with the broadest dictates of humanity, and that the article of the code which relates to consultations cannot be correctly interpreted as interdicting, under any circumstances, the rendering of professional services whenever there is pressing or immediate need of them. On the contrary, to meet the emergencies caused by disease or accident, and to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, both by the letter and the spirit of the entire code.

“But no such emergencies or circumstances can make it necessary or proper to enter into formal professional consultations with those who have voluntarily disconnected themselves from the regular medical profession in the manner indicated by the preceding resolution.”

After these resolutions had been passed in New Orleans, many of the professional men who always persisted in adhering to the code of the American Medical Association were of the hottest opinion that they had, by accepting them, removed every discrepancy of opinion or difference of action on the part of those adhering to either the old or new code. For it is true that the explanatory declaration of Chapter II., Article IV., Section 1 exhibits a great resemblance to the New York Code of 1882. For the Medical Society of the State of New York it must be a source of intense gratification to be convinced, by the pass-

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ing of that declaration, that a few years have sufficed to so change public opinion as to oblige even the American Medical Association to recognize the justness of most of the New York proceedings. Upon this result the New York State Society can but be sincerely congratulated, and the spirit of equity and justice, as displayed by the Committee drafting the explanatory declaration, must be commended.

The expressions of opinion in regard to the wholesome effect of the New Orleans declaration have been very numerous. I am in possession of several letters containing remarks full of satisfaction and hope. A gentleman well and deservedly known in the profession of both hemispheres, and markedly so with us for his allegiance to the Code of Ethics of the American Medical Association, gave enthusiastic expression to his delight over the satisfaction that declaration must give, and to the hope that the New York Academy of Medicine would give a public utterance in that direction. That would "immediately settle all difficulty about the code, and at once restore peace and harmony in the profession." I had to tell him that the Academy excluded all politics, ethical or otherwise, from its discussions, and that the only societies who could act in the matter were the medical societies of the County and of the State of New York. There the matter then rested, for I believe I was right in excluding it from any consideration in our midst.

Still, while this Academy is no political body, old and new codes, as far as I know, being equally represented with us, we are an integral part of the body medical, and the events in the professional world affect our interests and sympathies intensely. Thus we have to regret that the wording of the resolutions of New Orleans is very apt to obscure their meaning. Emergencies are acknowledged to be binding, but while the New York Code admits that a physician may (not shall or must) consult with a legal practitioner in a case of emergency, the explanatory declaration of the Association insists that such a meeting is not a meeting in the usual meaning of the term, and such a consultation "no formal professional consultation."

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The differences are rather slight, it is true. If, in spite of that, the code question is still made a war cry by some, that fact reminds us of the bloody wars and persecutions directed against former friends because of nominal differences of ecclesiastical opinions in the history of the Church. It is also explained by the intense enmity exhibited under all circumstances by those who have been convinced against their will. In a few instances we have to deal with the zeal displayed by converts, who, after they had greeted the birth of the new code with congratulations, were induced by certain external circumstances to change what they call their minds within the period elapsing between the appearance of two monthly numbers; or, what is still more—shall I say surprising, shall I say sad?—there are those who fought the new code because they longed for a fight without caring on what account. A gentleman who edited a sprightly and rattling journal at that memorable time, and voted “the regular ticket,” and was by no means gentle toward the new-code men and principles, has convinced and assured me he never read the new code. I believe him. There are others again—their number has been large at all times—whose souls and sensibilities are moved by shibboleths, by single words, provided these words are skilfully handled by shrewd calculation.

“Just where fails the comprehension
A word steps promptly in as deputy.
With words 'tis excellent disputing;
Systems to words 'tis easy suiting;
On words 'tis excellent believing;
No word can ever lose a jot from thieving.”

BAYARD TAYLOR'S *Faust*.

This is the element which in skilful hands determines for a moment the result of meetings, caucuses, assemblies. It is the emotional element which is swayed by sentiment, both false and true, by gesticulating oratory, and by implicit temporary confidence in the veracity and sound motives of its presumed leaders; which, therefore, “takes the specialists of the new-code persuasion by the tops of their heads and cuts their throats,” but after all is cooled down

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by common sense, consciousness, and conscientiousness when left to itself. Such men are in the majority. They are the waves of the ocean, always changing, now smooth and smiling, then turbulent and raving, and still always the same, steady in their general effects; now and then a disturbance and an injury, but always the eternal source of healthful development. We never cease to bless the ocean, even when it is doing its temporary worst. Let us, therefore, not despair of the future peaceful and blissful development of the country or the profession in times of turbulent commotion.

What difference is left unabolished may be left to itself until acrimony is soothed and bitterness replaced by kindness. Greater discrepancies than these have been wiped out. When the actions of men will be weighed, their opinions in regard to dogmatic utterances will be disregarded. When deeds are counted, let creeds be tolerated. But let us have patience, all of us; great improvements in the universal conscience do not take place by hard fighting and refuting. Lecky is right when he says that the greatest error cannot be annihilated; it takes time for them to fade out.

In the face of the explanatory declaration passed in New Orleans, which in its main aspects, I take it, indorses the New York State Society and the spirit of the new code, the majority of those present in the meeting of the American Medical Association were guided into believing that they must protect a sacred code from infidel invaders. The main complaint was that new-code men had been given offices in the organizations of the International Congress. On page 101 of the *Journal of the American Medical Association* you will find the following complaint: "Directly upon the threshold of the most important part of their work a majority of the original committee practically ignored all allegiance to the Medical Association, and, assuming an entirely independent attitude, at once placed in front of their ranks . . . one who was well known to have repudiated the National Code of Ethics." And in a voluminous circular addressed to the State and County Medical Societies, composed almost exclusively of editorials

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of the *Journal of the American Medical Association*, and signed by the Permanent Secretary of the Association and four other gentlemen, the following language is used: "The editorials of the *Journal* of the Association present the case" (the differences in regard to the proposed organization of the International Congress) "so clearly that there can be no doubt of the duty of the friends of the Association, or of the animus of its enemies. We feel assured that your Society will indorse the action of the Association and stand firm in support of the Code of Ethics."

It is, however, fairly understood by this time that the war of the codes is over. In fact, it has always appeared to unsophisticated people that the fighting about the code was not reciprocal at all; for, when the New York State Society had settled its code question to its satisfaction and that of the county societies in affiliation therewith, it appears that in them and by them the subject was not mentioned again except on strong provocation. You remember that it took a great deal of emphasis to relieve even this Academy of the proffered dispute. The code question is dying a great deal more easily than the bloody shirt disappeared from the politics of the country. If it is puffed up as the pivot of the organization of the International Congress, everybody is perfectly aware that this is either a pretext or a grave mistake. I believe it is both. Europeans, who were not afraid of admitting laymen and homœopathists, expected to meet, if ever they would consent to cross the Atlantic for an International Congress, the American medical profession. No International Congress must be caught in domestic quarrels, or audaciously kidnapped by a society, or a party, or the faculty of a medical school.

We are presenting a sad spectacle. In our first attempt at welcoming the medical world to our shores we have failed. The humiliation connected with this fact we have to submit to: to trace it to all its causes I cannot undertake here. The least we can do is to admit it; if the task we hoped to accomplish was too much for us, let us try to prepare for the future by attending to those duties of

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our own which we can perform without hindrance or disturbance.

The affairs of the Academy will require our undivided attention. In many respects we have been very successful indeed. The hall and building in which we meet is practically our own and free of debt. Thus we can look forward again to improve our quarters, enlarge our facilities, and think of securing, in some near future, a fire-proof building for our ever-increasing bibliographical treasures. Our income has increased with our membership. Both, however, require additions. There are many desirable men in the profession whom we ought to carry on our lists for mutual advantage.

The hopes I expressed in my inaugural address a few months ago have begun to be fulfilled. Old sections have been revived, new ones have been formed. I may here assure the gentlemen who have undertaken the task of organizing them that whatever aid the President and Council can give them in their labors will be freely offered. The sections will not only contribute to the improvement of their own members, but will enhance the interest of the general sessions by the communications coming to them from the sections and the discussions emanating therefrom.

To enable them to begin their work, Article VI. of the constitution had to be altered. That change has been brought about in the manner prescribed by law some months ago. It has also appeared to many Fellows that more alterations are required; they have given notice of their desire in this respect, but have been unwilling to come before the Academy with any propositions to make radical changes, though in the manner prescribed by law. Now both the constitution and by-laws may be repealed or amended by a three-fourths vote at a stated meeting, provided notice of the same has been given in writing at a previous stated meeting. But it will prove more satisfactory to guard against any mistake by trusting the work of moving proposals to change our by-laws in the hands of a committee carefully selected for that purpose. Off-hand legislation is always dangerous; it often errs, and

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always weakens the conservative tendencies which must underlie any political, scientific, or social structure, if it be expected to last. The President expresses the hope that if such a committee be appointed, it will be slow in considering and quick in reporting.

If I be at liberty to state a wish of my own, I should say that one of the articles which require amending is that which refers to the Committee on Medical Ethics. This committee is almost powerless; it has no initiative whatsoever; in every case calling for interference or judgment it has to wait for a charge to be preferred by a Fellow; the odium of an accusation falls always on an individual member, whose unselfish interest in the welfare of the Academy or the profession is at once published, as it were, by arraying him personally against the accused. To prefer a charge is thus almost rendered an impossibility. Thus, indeed, our law is more apt to encourage derelictions of ethical duties than to prevent or punish them. Now, I am of the opinion that the interest of an accused member must always be taken into account, but that of the Academy is at least of equal importance. What the District Attorney and the police are in the political and social commonwealth, the Committee on Ethics ought to be in our midst. It ought to be both authorized and directed not to wait for personal charges, but itself watch over the moral welfare of our community. If such an authority be established, the ethically weak would know that he is observed and may be held responsible without a Fellow being compelled to draw upon himself odium or revenge.

No society, either political or otherwise, can ever do without a penal code, old or new; thus there is no harm in admitting that the Academy is in need of a Committee of Ethics like any other society. If the number of those who necessitate its existence or interference be but small, so much the better; but the few, when not stopped, act as bacilli of moral putrefaction. Humankind is so organized that disease germs will operate rapidly and persistently. A Committee on Ethics, endowed with the authority to warn and censure in time, without any procrastination, will

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strengthen the feeble when he feels the first symptoms of struggling against temptation, may frighten the man of harder fibre who would otherwise rely on his facilities and the difficulties on the part of the committee, and protect the interests of society and the endangered dignity of the profession.

As far as I am concerned, I hope there will be no occasion again to refer to the same subject during my term of service. If there be, I shall repeat my warning. For I take it for granted that when you elected me to the highest office in your possession, you did so both in the belief that your candidate would have opinions and principles of his own, and on the condition that he should do his full duty.

That I speak of no imaginary evil we all know too well. What I said a few months ago of the growing tendency of a few to make the public acquainted with their merits and accomplishments through the columns of the secular press was considered timely, and met with the appreciation of many members of the profession, old and young, here and elsewhere. I mean to deserve the respect of my peers and superiors in the profession by again directing your attention to the fact that the penny-a-liners of the daily press are being utilized in the interest of, and by, weak-kneed brothers who cannot stand on their own legs, who mistake cheap notoriety for reputation, and the grin of derision for the smile of approval. The more power is concentrated in commerce, the greater the prevalence which is conquered by trade, the more rampant the spirit of grasping egotism, which is pathognomonic of modern industrial pursuits, the more is it the domain of the liberal professions to approximate their aims to an ideal. Let us not forget that learning by heart the action of medicines, or the working of articulations, or the proper use of an instrument, does not exhaust the possibilities of a medical man. The physician requires all that, but, beyond that, all the characteristics of a man of principle and intellectual and moral culture. Neither can be inculcated by the demands of old or new codes. Still, as a corpora-

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tion and a profession, we are responsible for the existence of these qualities in our members. It is true we cannot supply ideals to order, nor can we make those whose eyes seek the mire raise their brow to the skies. But such as find it difficult to develop those qualities spontaneously must be taught and aided in acquiring them.

MEMOIR OF AUSTIN FLINT, M. D., LL. D.

THE life of Dr. Austin Flint, one of my most distinguished predecessors in the presidency of the New York Academy of Medicine, was singularly fortunate. We may say that, now that he has passed away and avoided the dangers incident upon any human existence. These incidents made the Greek philosopher exclaim that nobody must be called fortunate before he died. His birth, his life, and finally his sudden and painless death must be considered peculiarly happy.

In the year 1638 Thomas Flint emigrated from Derbyshire, England, to Concord, Mass. Thus the family, of Puritan stock, is one of the oldest in the country. Austin Flint's father, grandfather, and great-grandfather were physicians in Massachusetts. Thus both the number of ancestors and their labors and culture constitute what even in this our country we may claim as genuine aristocracy.

This term I do not wish to be taken in anything like its usual European meaning. The aristocracy of the Continent of Europe, hundreds of years ago, was composed of the men who spent their days in idleness, robbery, and violence. Their right consisted in the strength of their swords and the elasticity of their consciences. It required the invention of powder and guns to make their castles useless, change the hitherto unprotected into dangerous adversaries, and thus render the aristocrat virtuous. This compulsory virtue changed them into willing servants of the princes, whom they obeyed, either on the battlefields or in the waiting rooms. They and their offspring, unless they have consented to take part in the physical or intellectual labors of the world, have contributed nothing to the development of morals and culture.

This is not what we may designate aristocracy in

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America. Our country has the advantage of not suffering from the evil inheritance of the mediæval period. What it has grown into being, it has become by hard work both of hands and brains. That kind of aristocratic family was the one Austin Flint hailed from; in it he might well have rejoiced, though pride would never be pardonable in anything accidental and not accomplished by one's own efforts.

With such hereditary advantages he was born in Peterham, Mass., on October 20th, 1812. They were followed by those resulting from a liberal education in Amherst, and in Harvard, where he was graduated in medicine in 1833. Since that time, without any interruption, he has been in the practice of his profession, adding to the daily practical labors much and varied literary work, and for the last forty years constant services as a teacher of medicine in six different colleges.

In Northhampton and Boston he practised three years until he moved to Buffalo, N. Y., in 1836. Here he resided sixteen years, with the intermission of a short period in 1844 in which he taught clinical medicine in Rush Medical College, Chicago. He founded the *Buffalo Medical Journal* in 1846, and edited it through a course of ten years; he organized, in connection with Frank H. Hamilton and James P. White, the Buffalo Medical College in 1847, but left Buffalo in 1852 to take charge of the chair of clinical medicine in the University of Louisville. Thence he returned to Buffalo in 1856, spent the winters of from 1858 to 1861 in New Orleans, teaching medicine and attending Charity Hospital, and settled in New York in 1859. His position as the teacher of clinical medicine in the Long Island Medical College he resigned in 1868; the same chair in the Bellevue Hospital Medical College he retained to his end. Its last Commencement took place while he lay dead in his house, and a day before he was carried to his last, silent home.

As a teacher he was eminently successful. Thousands of the present practitioners of the United States were his pupils; there is no county but has those who listened to his lectures; and there is none but who gratefully re-

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members the breadth of his knowledge and the systematic clearness and elegant simplicity of his diction.

Whoever has not listened to him in the lecture room has made his acquaintance by his writings. For forty years he has contributed largely and worthily to the medical literature of the country. Many of his first papers appeared in the *Buffalo Medical Journal*, which owed the high regard in which it was held mainly to his contributions. From 1848 to 1850 he published articles on diabetes, the pathology of typhoid fever, on the epidemic of cholera in Buffalo, on serous effusions into the arachnoid cavity, on pleuro-pneumonitis complicated with pericarditis, and on fifty-two cases of typhoid fever. These essays were followed, in 1852, by clinical reports on continued fever and on variations of pitch in percussion and respiratory sounds, and their applications to physical diagnosis; in 1853, by clinical reports on dysentery and on chronic pleurisy; by (1856) his physical exploration of the chest and the diagnosis of diseases affecting the respiratory organs, and (1859) his practical treatise on the diagnosis, pathology, and treatment of diseases of the heart. In 1865 he wrote his compendium of percussion and auscultation, and of the physical diagnosis of diseases affecting the lungs and heart; and finally, in 1866, his treatise on the principles and practice of medicine.

It is not necessary to enumerate his many essays and papers before and after that time. The publications of the United States Sanitary Commission and the better journals of the country bear evidence of his ever-increasing experience, willingness to contribute to the common stock of knowledge, and the eagerness of the journals to print his papers.

His literary reputation was deservedly a very great one. Some of his works have been translated; his treatise had an immense sale. The method and mode of his writing is characteristic and instructive; if some of the modern writers would imitate him it would be better for them and for literature. It is apparent that for many years he wrote nothing but clinical reports and studies. They

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were papers replete with careful observations plainly described, with their immediate results. These were followed, when his experience grew and his judgment became matured, by monographs on special subjects. He was fifty years old, and already a celebrity, when he published a treatise on the whole subject of internal medicine. It was the work of a man who had given two dozen years and more to the study of his subjects before venturing before the profession with his great book. Let the young manufacturers of text books of nowadays, who collate the pigeon-holed pilferings from the older books of better men into a volume and try to build up a reputation with its hoped-for pecuniary advantages, learn from Austin Flint the period of life in which a man may be expected to write a text book for the use of either the student or the physician.

In his writings nobody ever was more straightforward and honest. What he did not know he would not state. When he felt that the latest editions of his text book could be made more scientific and serviceable by elaborating the pathological anatomy of his themes, he selected William H. Welch to write the required chapters, and gave him full credit for his work in his preface. As he was modest in his writings, so he was in discussions. He was always as anxious to be taught as capable to instruct. Some may remember a discussion on pepsin in the American Medical Association many years ago. When, the next day, he received a note from one of those present, in which the necessity was urged to add muriatic acid to the doses of pepsin he had advised, he called in person to express his appreciation of the, then new, suggestion and the letter containing it. There was, however, one thing he was jealous of, viz., the honor of his country. When, in a discussion, he once complained of the oblivion of Carr's name in connection with the causation of the crepitant râle, and the pre-eminence attributed to foreign authors in regard to the explanation of respiratory sounds, he was rejoiced and proud when he was shown the page on which Winternich gives full credit to the American practitioner. Vanity and exalted opinion of himself were

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not his faults. He would never have accepted the eulogistic exaggeration proclaimed in a recent obituary, in which it claimed that nobody in this century has done so much as he, or more than he, for the diseases of the respiratory organs. He would have urged that friendship and esteem must never go so far as to obscure the names of Laennec the Frenchman, Skoda the Austrian, and Stokes the Briton.

Still, he was original in many things. His discussions on pitch and resonance will always be read with pleasure and profit. Though we owe to him no great discoveries, we and our successors shall always admire his clear way of dealing with known facts and new observations, and of popularizing for the medical mind the latest evolutions of medical thought and the most mature fruit of scientific research.

The peculiar qualities displayed by Austin Flint the writer would also exhibit as a teacher, both didactic and clinical. He taught general medicine, and preferred to study, and give particular attention to, the diseases of the systems of respiration and circulation. He was clear, painstaking, and accurate. He occupied a chair in which there are, to the average student, no amazing features or feats. The student who applauds when a bone is sawed through, or a spouting artery is caught by a dexterous hand, or the actual cautery sends fumes and odor through the amphitheatre, is quite apt to gaze with sleepy indifference at the master whose lips utter the finest points of a difficult diagnosis, or whose brain is exercised over the greatest intricacies of pathological physiology. In the teachings and the daily work of the practitioner there is rarely anything surprising, amazing, or brilliant. In spite of that, it did not take long for Austin Flint to make a great and ever-increasing reputation as a teacher. Let our young men never forget, and let them learn from the example of the illustrious dead teacher, that a good preliminary education, systematic work, earnestness, and solidity are the corner-stones on which alone a teacher and an author can build up a name worthy to be enjoyed and capable of being handed down to posterity. What

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Flint's importance as a teacher has been, and will be, can be best proven by his thousands of pupils. Still, even as fortunate and successful a man as he was, has his disappointments and curtailments. One ambition of his life was never fulfilled.

Look at this fact: At the meeting of the American Medical Convention, since called Association, at New York, on May 5th, 1846, he was appointed on a committee to report on a resolution, offered by Dr. Isaac Hays, for a uniform and elevated standard of requirements for the degree of M. D. in all the medical schools of the United States. The report is signed by R. W. Haxall, Chairman, and can be found on pages 63-77 of the Proceedings of the National Medical Convention, held in New York, May, 1846, and in Philadelphia, 1847 (Philadelphia, 1847). The very first of the ten resolutions embodied in that report is this: "That it be recommended to all the colleges to extend the period employed in lecturing from four to six months." And it is true what a late number of a journal¹ says, "that that report is still to-day a most interesting, applicable, and valuable document." But, alas! the slowness of spontaneous evolution, and the predominance of circumstances, and the weight of impediments are such as to cripple even a strong man like Austin Flint, who, though his life was spared long, never saw the hopes of his younger years fulfilled.

His successes as an author and a teacher were equalled by those accomplished in his consulting practice. In those special branches to which he had given so much of his time and attention his counsel was frequently requested. No matter whether he had anything new to say, or had only to confirm the diagnosis or fortify the position of the practitioner, everybody here knows that he was always kind, mild, and modest. There is nobody here but has often either admired his superior knowledge and experience, or blessed his pleasing demeanor and generous words. He was an eminently just man, and, for that reason, could afford to be mild and generous.

¹ Journ. of the Am. Med. Assn., March 27th.

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These qualities he exhibited in a period which has been a critical one in the development of the last few years in the life of the medical profession. During the first successful year of preparations for the International Congress he was true to the *bona fides* entered upon in Copenhagen. From the very beginning he was, like all greatest and wisest men in the profession of both this country and Europe, earnest in excluding medico-political differences and difficulties from the organization of the Congress. In regard to the latter there was to him no code question at all. I have good reason to believe that the demoralization and disorder in the ranks of the profession, growing out of these differences, caused him the greatest possible pain and many of the most unhappy days of his life. It is a great satisfaction, however, to know that everybody wished to distinguish and honor the man who had served the profession half a century, to his credit and to the advantage of his fellows.

In regard to important moral and ethical questions, it is of graver import to study a man's own words than to listen to what others would wish us to believe; and when that man is Austin Flint, that mode of inquiry is still more indicated. Not that the code question is so grave as some would have it. Indeed, it has begun already to have a historical interest only.

But some time ago everybody took sides in regard to the code question. So did you, so did I, so did Austin Flint. But to belong to a party does not mean to be an offensive partisan. And if ever a party man—so I believe—was impartial, that man was, or tried to be, Austin Flint, whom we honor as much for his words as for his actions. When a man works himself up into celebrity, his memory must serve the surviving as did his life. His opinions ought to be learned from his own papers published in the *New York Journal*.² Read them as if he were still among you. He is among you. For those who have lived a life worth living do not die. I am willing to abide by the platform laid out in those essays. They contain the same thoughts

² April, 1883. Also in his Presidential address of 1884.

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expressed by your presiding officer in an address delivered from this place on October 1st, 1885. Two days afterward that address appeared in print. Two days after its publication I received from the great and good man who is now gone a letter which I shall be proud of preserving as a legacy. I hold in my hands this note of Austin Flint's, which begins with the words: "I have read your address with pleasure"—and finishes with these: "How beautiful, lovely, and salutary it is to promote peace, harmony, and brotherhood!"

On the evening of his inauguration as President of the Academy, in 1871, his predecessor, one of the most illustrious types of American erudition and versatility, Edmund Peaslee, had a right to say to him: "We have always found you the high-minded and sympathetic man and the genial gentleman, as well as the finished scholar, the distinguished author, and the skilful practitioner."

All that he proved during his presidential term, which extended over the two years from 1871 to 1873. The routine work performed during that time did not differ much from that of many other years or terms, but some of the papers were of unusual excellence. It would be improper to go into the merits of the essays read and discussed. They were by Allen S. Church, Charles A. Leale, William Detmold, Alfred L. Loomis, Samuel S. Purple, Charles P. Russell, Gouverneur M. Smith, J. Lewis Smith, Frank P. Foster, Gurdon Buck, Ernst Krackowizer, J. C. Dalton, Lewis A. Sayre, E. C. Seguin, Salvatore Caro, and Allan McLane Hamilton.

Flint's contributions to the scientific work of the Academy were not numerous, but their character was high. Amongst others, "The Management of Pulmonary Tuberculosis, with Special Reference to the Employment of Alcoholic Stimulants,"³ June 3d, 1863; "Discussion of Dr. Leaming's Paper on Pleuritis,"⁴ March 17, 1870; "Discussions on the Etiology and Pathology of Bright's Disease,"⁵ October 1st, 1862; "Discussion on Dr. Loomis' Paper on Typhus Fever,"⁶ February 15th, 1864; "Last

³ Transactions, vol. ii, p. 353.

⁴ Bulletin, vol. iv., p. 48.

⁵ Bulletin, vol. ii, p. 1.

⁶ Bulletin, vol. ii, p. 388.

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Illness of Valentine Mott, M.D.,"⁷ May 3d, 1863, will always be referred to with sincere pleasure.

His membership in the Academy ceased a few weeks before March 13th, on which he breathed his last. You remember the universal reluctance on the part of those present to accept his resignation, and the silence with which the remarks of the presiding officer were listened to. *Malevolence only could misconstrue, and has misconstrued, into their opposite his words of appreciation and regret.* There is one great gratification even in that resignation of his. His good-will toward the Academy is best exhibited by his staying as long as he did, under rather peculiar circumstances; and, moreover, we shall know, by the gift of his library which he bequeathed to the Academy, that the latter was dear to his heart. For the Academy not to speak words of praise and remembrance in behalf of his memory, in this hall which he graced and in which he taught, in spite of suggestions and even demands to the contrary of a personal character; not to keep his memory green among us, is an impossibility. As it is for us, so for the medical men of the country. His name and reputation form part of the history of our profession, and this Academy means to honor its dead who have gone into history.

In listening to or reading the eulogies of the dead, I have often been struck with the well-meant but still obtrusive exaggerations of their characters and services. It then appeared to me that the writer buried the memory of the friend under an oppressive weight of high-strung flatteries. It reminded me of the manner in which an inconvenient beggar is forever cast aside by buying him off with a large sum. That plan may do well enough for the mediocre, who never excelled, and therefore is extolled for once. But if there be any among us who rise above mediocrity and average, or those even whose intellectual stature fills a large space between the soil on which their feet walk and the skies to which their brows are turned, let them while they live harbor the ambition, or when they are dead enjoy the honor, of serving man-

⁷ Bulletin, vol. ii, p. 434.

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kind even after and through their very deaths. To accomplish that let the truth be stated, and the truth only. Thus it was the truth only I aimed at in this brief sketch. As its object was great, I found it an easy task to omit the trite platitudes of a commonplace eulogy.

Austin Flint had great advantages, and developed and utilized them for the benefit of the many. Born with an enviable inheritance, he enjoyed a thorough general and special education. He had great physical endurance and uniform health, an imposing presence, pleasant manners, and an equable temperament. With physical and intellectual powers he combined indefatigable love of work, which he performed systematically and energetically. He was a thoroughly modest man, who knew how difficult it is to master the depths of knowledge. Thus he had an unusual degree of common sense, which limits aspirations and aims. Thus he became thorough in what he undertook to practice and to teach. Thus he was successful in practice and enjoyed the confidence of both the profession and public. As a teacher he is remembered by thousands; his pupils loved him and his colleagues honored him. His writings obtained for him a national and international reputation. There was no place of honor in the possession of the profession of the city, State, or country which he has not filled. The profession of Europe was anxious to show its respect for him. Thus he lived and worked to an advanced age, disturbed by but few symptoms of evanescing powers, and when the time came he ceased to labor and live on the very same day.

As a profession let us hope that we shall have many like him.

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INSCRIPTION ON TABLET ERECTED IN THE HALL OF BELLEVUE HOSPITAL IN MEMORY OF AUSTIN FLINT, M. D., LL.D.

BORN OCT. 20TH, 1812. DIED MARCH 13TH, 1886.

Entering his profession with broad culture and thorough education, he remained an active physician to the last day of his life.

As a medical writer he added to the knowledge of the American profession and to medical science.

As a teacher he was loved and respected by thousands of pupils in all parts of the country.

As a physician to Bellevue Hospital for twenty-five years he contributed largely to its reputation, by his character, acquirements, labors, and wise counsels.

Erected by the Commissioners of Public Charities and Correction.

H. H. PORTER, *President*,
THOS. S. BRENNAN,
CHAS. E. SIMMONS.

TOAST AT ANNUAL DINNER, COLLEGE OF PHYSICIANS, PHILADELPHIA, 1886

NEVER *more* than to-night have I appreciated honors conferred on me by the Fellows of the New York Academy of Medicine. For it is to the circumstance that I occupy the place of President of that corporation that I am indebted for the opportunity of appearing before the *élite* of the medical profession of Philadelphia, and to speak to you on a subject dear to us all.

The Academy, composed as it is of practitioners of medicine, has but one great object in view, viz., the cultivation of medical science. No other purpose is contemplated in its constitution. Will you permit me, therefore, to reply to your toast from the point of view of the Academy, whose representative you were kind enough to call here, and whose delegate I consider myself.

What an association of medical men means by medical science is easily told. It comprehends the knowledge and the evolution of the knowledge of the biology of man, no matter whether we have to deal with the normal condition or with its modification called disease. Now, the progress of science, while it may be the sole object and aim of an individual explorer and expert, has, considered from the standpoint of the profession at large, a practical tendency. If we exclude, as we all do, metaphysics from the domain of science, there is no science, or part of it, ever so abstract, apparently ever so abstruse, but is utilized and useful in the interest of mankind. Here it is where the most abstract medical scientist and the most practical professional man meet on common ground. All science, as it is human in its origin, is raised above the level of mere theory by the service it renders to humanity. Thus the medical profession, with its practical tendency and its claim that all medical science can and must be made serv-

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iceable to the physical and mental well-being of man, is the best representative of science, and both science and the profession may well be considered together. Indeed, I believe there is no country in which this principle, that medical science's highest aim and main object are the preservation and restoration of health in the individual and the community, is recognized to a greater extent than in America.

The aim of medical science to preserve or restore health is reached in two ways, and the men who reach it, and form the whole of the profession, are of two classes. Some work as searchers, experimenters, and teachers; some in the ranks in the service of daily practice. But all have the same interest at heart, that of relieving suffering and benefiting mankind. Thus the physician, of whatever grade, has a double responsibility: he shares the duties of a citizen of the Republic with every intelligent man, but he has his own, graver, more responsible duties to perform in behalf of the commonwealth. To be able to do so a great deal of preparation, training, intellectual and moral development are required. I should be willing to say that, not to speak of trades at all compared with a profession, the responsibilities of the medical profession are by far greater than those of any other. The lawyer gives his attention to property questions and those of law; the clergyman is engaged in moral and emotional problems; the teacher has the mental capacities of his pupils to develop, and what he does for physical exercise and culture he does so under the rules laid down and the advice given by the physician. The medical profession only is concerned in the whole man, body and mind, each conditioning, and depending upon, each other. From cradle to grave his advice is required and sought for; the physiological development of period after period of life requires his attention and study; with the changing conditions of the body its marks on mind and soul are examined, the incipient symptoms of physical and mental aberrations known. Public and private hygiene are his domain. The care of the present generation and of those on whom rests the future greatness of the country is the

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legitimate subject of his studies. In fact, the professional man is the very one to whom—to use the words of the philosopher—nothing that is human is foreign. I cannot imagine anything connected with human life and interests which would not legitimately belong to the domain of the physician. I foresee the time when his knowledge will be sought for and consulted, not only by those who are acknowledged to be physically diseased, not only in the regulation and enforcement of private and public hygiene, but in questions involved in the greatest difficulties. I cannot see the possibility of a solution of the most serious questions of criminal law without the physician. The solution of the moral insanity question, it is true, has been sought for without the necessary scientific premises, but still the great questions of insanity and crime, and brain and insanity, cannot be answered except by medical research, and there will be a time when the physical history of a criminal, and the study of his skull and face and teeth, the symmetry or asymmetry of his body, will form the basis of a judicial procedure.

This is an ideal condition and aim, but not so ideal as to preclude its realization. The changes in the political condition of the old world, and those in the social of the old and new, are so rapid that much that was considered impossible but a little while ago is looked upon to-day as the coming necessity.

If such be the future rights and expectations of the profession, if it mean to be the protector and adviser of the commonwealth, what has it to offer to-day as an offset to so much honor, and as its legal claim for the performance of such onerous duties?

Many of those who at present study medicine and are admitted to the profession—for instance, the farmhand who obtains a diploma after two or three so-called courses, or ten or twelve months altogether, of what he and his chums are pleased to call study; the clerk who was unfit for his trade because he was at war with orthography and was not victorious; the recipe writer who abbreviates because he is at loss to know the genitivus of the nominativus, which is equally unknown to him; the drummer who heaps

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negative on negative, not because he desires to make a stronger affirmative, but because his village schoolmaster was not given time to teach him the mysteries of grammar—all these legitimate members of the party rolls and fire companies cannot be expected to put into practice an exalted ideal which it takes a higher degree of education and a high standard of morality only to understand and appreciate. If I say, therefore, that these persons ought to be excluded from the vestibule which leads into the accesses to the profession, I repeat only what many have said before me, what the University of Pennsylvania tried to enforce forty years ago, and finally after scores of years succeeded in realizing. If there be anything that has convinced me at an early time that Philadelphia had a right to the name of a medical centre, it was the fact that it has first, not laid down in verbose pronunciamientos, but actually tried to raise medical education, and finally been successful. I have recently read an editorial in a journal which claims that a Western city, known for its many grain elevators, cable railways, and anarchists, is a medical centre because of the bacteria-like increase in the number of its medical students and graduates. A medical centre, however, is not formed by the number of bodies: it is a matter of soul and mind and intellect. If Philadelphia and Boston are medical centres, they are so because they require schooling and intellect before they admit to their schools, and because they reduce the number of their students rather than encourage their locust-like increase. If on *that* basis we were to have not only Philadelphia, New York, and Boston, but every large city of the Union, as medical centres, so much the better for the profession at large, and medical science in the States and everywhere. Until we have, however, accomplished that, let us be modest and acknowledge the fact that we are far below our aims and away from the realization of our hopes. It appears to me that we speak a little too much of the claims of this or that city as a medical centre. If the results equalled the local ambitions, we should hear less of claims. Whoever is on the top does not decry the climbers. If many were on the top there would be

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no envy. So let us all arrive at the top and work in parallel lines, each proud of and encouraging the other.

And now, Mr. President and gentlemen, I think I might safely conclude my remarks, which you have listened to with courteous attention. You have been good enough to invite a New Yorker to reply to the toast on the profession. I can assure you that the New York profession tries to be as advanced as that of other cities, both in knowledge and morals, and that there are very many amongst us who strive to share in the highest intellectual and moral efforts of the profession of any country. Whatever the country may have been told of the Gothamization of the profession in the commercial metropolis, let me assure you that the reports are based on mistakes, if on nothing worse. Nor is it true that anything has occurred in the ranks of the profession of New York City or State which has seriously interrupted, for more than a very short time, the cordial mutual relations of its medical men. There have been dissensions—where have they not been? Even Philadelphia has had its semi-occasional unpleasantness—but the heart and soul of the New York profession are far above the small interests of a few petrified souls or cunning politicians. Greater differences are met with everywhere, and the ideal of the medical man is still the same. When the physicians in America, like all citizens, are divided into two great political parties to such an extent that they could fight on two opposite battlefields; when in Germany they call themselves agnostics and humanists, to the exclusion of positive religion altogether; when in Russia they are indifferent in religion and nihilistic in politics, good Roman Catholics in Spain and Ireland, liberal in Brazil and atheist in France, or Catholic, as the case may be—there is one great aim and principle underlying medicine, both in science and practice. There is no faith concerned in a biological process; no creed in the action of a medicine; no political differences in the moans of human sufferings; no territorial hues and taints of scientific results. If there is a cosmopolitan and humanitarian science and man, that science is medicine, and that man is the scientific and humane physician. As that is your plat-

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form, so it is ours; so it is that of all enlightened and progressive medical men through all generations. In the ancient world the priest was the doctor, erudite in both metaphysics and physics. That has changed. Not in a literal sense of the word is the doctor a priest, but everything attributed to the priest and his high calling, intellect, erudition, general culture, sobriety, earnestness of purpose, conscientiousness, purity of heart, and self-sacrifice in the interests of his calling—all the qualities, indeed, which raised him above the ranks and made him qualified to be priest, physician, and judge—have been, and will forever be, the honor and the recognition mark of the true physician.

Let us all work for that end as well as we can, singly and together. Let that aim be inscribed on the flag of the profession, and let it be visible far and wide. By keeping our eye on the great future, let us not forget that the roads are many while the ideal is one. We can always prove that we belong to the great family of idealist physicians, scorning low motives, despising mean measures, to our honor and that of the profession and of the country.

And now I *shall* close. I give the floor to my betters, and return to my seat and to New York. In regard to Philadelphia I have added to my knowledge to-night. I remember but very few occasions on which I was in this city. Once I had the pleasure of meeting some of you over the remains of the Siamese brothers. Otherwise I know but little of the city, except that I had to read, and did read gladly, your books and journals. I knew that this was the city in which the Declaration of our Independence was signed, and the greatest American lived, Benjamin Franklin; that there were several hospitals here, and two illustrious colleges, and a museum of natural history. I was also once in a medical study, that of Alfred Stillé. Thus I came to the conclusion that every Philadelphian study looked like his, and every Philadelphian medical man was an Alfred Stillé. I was also told that Philadelphia was a very, very quiet place, and I sometimes felt that the whole city must be hushed, like a laboratory or a library. In how many of these beliefs or impressions I may have been

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mistaken, I cannot judge from this place. But I shall tell the New York friends that I have learned a good deal to-night—namely, how strangers are made to feel comfortable; and that all the good and great men of Philadelphia's profession can be brought together in a single festive hall without strife, dissension, and hesitation; and that the College of Physicians of Philadelphia has thus accomplished what the New York Academy of Medicine is aiming at and laboring for. If, at last, *I* were to pronounce a toast, it would be no other but this: the College of Physicians of Philadelphia, *vivat, floreat, crescat.*



INTRODUCTORY REMARKS, ANNIVERSARY OF NEW YORK ACADEMY OF MEDICINE, 1886

THE New York Academy of Medicine is of about the same age as modern medicine, as anæsthesia in America, and as Virchow's *Archiv* and his cellular pathology in Germany. During these forty years scientific medicine has progressed all over the globe in steady evolution. This Academy has not only followed this progress, but has contributed to it very largely. Of this assertion its historian would find many and irrefutable proofs. Indeed, very many of the names connected with the Academy would be bright lights in any country's literature; to mention them here, however, would call the blush of pride to many a modest man's cheek, for there is many a Fellow in this hall, at this moment, who is both admired in our country and blessed in foreign parts for his contributions to the science and art of medicine.

Still, justice requires me to say that the Academy owes its position and efficiency to more than the efforts and genius of its best and most powerful minds alone. The political and the scientific republic thrive on the co-operation of the great capacities and the democratic masses. The bi-weekly stated meetings, with their papers and discussions, have kept the interest in scientific pursuits awake, more or less, all these decades; the vigorous life of the newly established sections proves the zeal of the many participants; the rapid increase of the library, which is accessible to both the whole profession and the public, speaks as well for the Academy's success as for its generosity; the absence of ethical codes from the requirements of admission, and of ethical wrangling from its gatherings, for its scientific spirit; and the unencumbered possession of this large building, for the Academy's perpetuity and lasting influence. In its

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name I am directed to extend to all of you a hearty welcome to this hall. Still, while so doing I cannot abstain from expressing the hope that my successor may, in the near future, have the honor of receiving you in a larger hall, and one more worthy of being the centre of the profession of this metropolitan commonwealth and the representative of American medicine.

American medicine has always exhibited a peculiar feature, mostly in common with the rest of the Anglo-Saxons on the other side of the Atlantic. It is eminently practical. In this I do not wish to be misunderstood. Science need not have, *ea ipsa*, an exclusively practical aim; its value is not its weight in bread or butter. Mental efforts must not always be directly changeable into coin. The very branches of philosophical and exact sciences which have contributed most to increase the growth of human powers carry their reward less in money than in their intellectual results.

Indeed, for a long time American medicine has suffered from the very fact that we had no class of men who studied for study's sake, and found their aims reached in the cultivation of a pure science. We had no institutions to aid them, no citizens—though they would have fain done so—rich enough and interested enough to endow the institutions, no scientific men independent enough to allow themselves to be absorbed in their intellectual labors. All this is being changed. The number of strictly scientific workers among us is still small, but it is increasing constantly, and the men and women outside of the profession who are interested in, and willing and anxious to aid, the cultivation of medical science, begin to make themselves known. The American family who but lately enriched a medical school and thus, let us hope, rendered the prospects for a vast improvement in medical teaching and an elevated standard of professional merit more promising than ever; the large bequest to this Academy, due within a few months, by a lady connected with one of the most illustrious medical families of the city; the munificent donation, a few weeks ago, by another lady who desired to lend an expression of her husband's and her own admira-

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tion for medical science and the medical profession—all of them prove the interest the public is beginning to take in medicine and medical progress.

Well it may, for if there be a science, or a complex of sciences, pure and at the same time practical, it is medicine. The medical professions of all countries, and medical science in every land, have but one aim and end—that is, the preservation of the health of the commonwealth and the individual, and the saving of life. The very results of the most abstruse investigations, the very highest intellectual efforts, are always directed to the accomplishment of these practical ends.

If there were no other tie between the public and the profession, there it is. Its existence is proven by the interest you have exhibited and the readiness with which you have kindly yielded to our invitation. As for the profession, it has felt it always; certainly, since the time when its adepts ceased to wear wigs wherewith to cover the occasional emptiness of heads, and discarded the gold-headed canes from which the oracularly sealed lips liked to suck wisdom, the thoughtful and progressive professional man has always understood his connection with, and his responsibility to, the community, and known this also, that the more intimate the public became with the foundations and tendencies of his science—not to be gathered, however, from the cheap publications and advertising sheets which they steal into your houses, or sell to you in the garb of a religious or secular newspaper—the easier and more successful was his own task, viz., to protect or save his individual charge, and to benefit the community at large. In this spirit, dictated by the feeling, more or less conscious, of the existence of interest common to the public and to the profession, once, nearly thirty years ago, an anniversary discourse was delivered to which the public was invited. What at that time appeared to be merely desirable has at present become a necessity. The revised constitution of the Academy ordains that the anniversary discourse must be delivered in November of each year, and must be public. To me personally it is a source of intense gratification that the new rule should be inaugurated during my presidency.

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Thus was granted to me, what I hardly had the courage ever to hope, to witness the realization of what often was considered an ideal future. Thus there is one ideal at least that has become a fact.

The participation of the most intellectual class of the lay public in what formerly would have been, and was, the exclusive domain of the profession, proves that the conviction is gaining ground that medicine is the most humane and the most practical of sciences. Indeed, science and practice are not divergent. Their aims are identical, they serve each other, and both joined serve mankind.

Learning and practical tendency go very well with each other. That is what I shall prove by the discourse of a gentleman who is known to erudite men of all classes as a scholar, to his professional brethren as a learned physician, and to his numerous admirers among the public at large as a consummate practitioner—Dr. William H. Draper.

INTRODUCTORY REMARKS, ANNIVERSARY OF NEW YORK ACADEMY OF MEDICINE, 1887

IN its last meeting the Council of the Academy directed its President to present to the audience, previous to the anniversary discourse, a short report of the life of the Academy during the current year. Thus it becomes my pleasing privilege to appear before you, as I did a year ago, with a few brief statements. Altogether this twelve-month has been a period of successful work and increasing prosperity. We have a great many gains to record, but also sad losses. Eight Fellows have been removed by death. All of them filled their places well. Their names and memories will not be forgotten. May the Academy, the profession, the public have more like them!

Fortunately, the life of a great institution, like that of a nation of free men, does not cling to, or depend on, that of individuals. While the Academy lost eight Fellows by death, and one by resignation because of removal, sixty-two joined our ranks, so that the roll of Fellows contains at present five hundred and eleven names, the largest number at any time since its incorporation.

One of the principal features of the Academy is its reading rooms and library. The reading rooms are filled with most of the medical and scientific periodicals of the world. These form a stock of volumes increasing in number and value from year to year, and swell the library.

Besides, the latter has added to its shelves during one year eleven hundred and twenty volumes and four hundred pamphlets. Works begin to come in from foreign parts in exchange for our Transactions, two more volumes of which have been printed and sent abroad. With the encouragement we now have, we may hope that within a reasonable time we may gather a large and influential

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collection of books, such as will supply all the intellectual food the profession will want. A special donation of five thousand dollars, and the application of another five thousand to the same purpose, have begun to yield an income which enables us to purchase regularly some of the latest works.

To what extent the profession sympathizes with our efforts is proved by occasional gifts and bequests. The will of Dr. A. Flint ordered his whole library to be given to the Academy, with the exception of such books as the family might wish to retain. A medical gentleman of a neighboring State has seized an opportunity to purchase for us a collection of four hundred books on the special subject of congenital malformations, and within a few weeks we shall be in possession of a library of four thousand volumes, collected during a long lifetime by a medical man ripe in years, rich in merits, and long retired from his vocation and public life. When his name will become known in connection with this welcome gift, many of the older members of the profession will gladly recollect him as a former townsman, in large practice, a public-spirited gentleman, and one of the founders of the Pathological and other societies—Middleton Goldsmith. He prefers to part with his library to being parted from it, and to enjoy our enjoyment while he is still alive; thus teaching a lesson to those who defer, until they are gone forever, their acts of good-will and beneficence. But, after all, the future of every library is firmly secured *by funds only*. When our nearest and most urgent wants will have been supplied, it will be our duty to see to it that, instead of our present library fund of ten, there will be one of a hundred thousand dollars. Then only can the profession know that all the intellectual food required is within reach. To the erudite man a large library hall is what a church is to the religious.

The account of the work of the Academy includes brief information in regard to its scientific proceedings. The nine Sections held each its regular monthly meetings with but a few occasional interruptions. Their number is about to be increased by one which will occupy itself

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exclusively with the diseases of children as special studies. The stated meetings of the Academy were occupied with topics of great importance and general interest. The selection of chloroform or ether as an anæsthetic—a question the merits of which have often been curtly, if not, correctly, decided by a coroner and his jury, guided by accumulated ignorance—was made the subject of a careful and protracted discussion. There were several other surgical papers, too technical, however, to be mentioned on this occasion. But it will interest the audience to learn that the electric instrument which failed to indicate the location of the bullet in President Garfield's body, was presented here in an improved shape and performed what it was announced to do—viz., to detect and locate metallic substances in the human body.

The diseases of the nervous system have been studied from different aspects. Epilepsy and the combination of spastic and paralytic symptoms in spinal diseases have aroused much interest. The antiseptic treatment of summer diarrhœa was eagerly discussed, and the respiratory organs came in for a full share of attention. Besides a number of purely technical papers, there were others whose themes commend them to the public at large. Men who knew from personal experience whereof they spoke entertained us on the climatic and sanitary conditions of Southern California, and the comparative value of Colorado Springs and Davos Platz, as winter resorts for those suffering from pulmonary ailments. There was, finally, a discussion on intubation—a proceeding to relieve the strangulation of children dying with membranous croup, by introducing into the larynx a hollow cylinder instead of opening the windpipe below it by tracheotomy (which many of us did in many hundreds of cases, since we had been taught to do so by our late Fellows in olden times—Waldemar von Roth, Gurdon Buck, and Ernst Krackowizer). To that meeting of last June I look back with great satisfaction, for it will be a memorable one in the history of the Academy. Not only was a large amount of new information brought out, but, in the shape in which it has been collected and distributed, it will

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not fail to instruct men and save lives both here and in Europe.

Besides, the whole proceeding is the discovery of a Fellow of the Academy, who, after years of careful and painful labor, succeeded in enriching medical art and adding to the reputation of the American profession.

The latest proof of the methods pursued in the public interest by this New York Academy of Medicine, whose object is "the promotion of science and art of medicine," is found in the readiness with which the present Health Department and the profession as represented in the Academy have joined hands. Jealousy and rivalry have sometimes existed between them, for reasons at present well understood. They have been substituted by hearty goodwill and close co-operation. A fortnight ago to-day, in the presence of the president and other officers of the Health Department, its medical member addressed us with a paper on the question, "How can the Medical Profession aid the Board of Health?" Let me say only this, that this anxiety on the part of the Health Department to bring the message, and the profession to receive it, resulted in the appointment, at the suggestion of the Health Department, of a conference committee of five to co-operate with the constituted authorities.

Exactly a year ago, on this very platform, I expressed the hope that within a reasonable time I, or my successor, should have the glorious opportunity of greeting you in a larger hall and with nobler surroundings. The circular I hold in my hand, which is to be distributed shortly among our friends, has reference to that subject. It is signed by a committee of thirty, and reads as follows:

"The New York Academy of Medicine is an incorporated institution forty years old. Its object is the cultivation of medical science. This is accomplished by lectures and discussions in the stated meetings of the Academy and its numerous Sections; by sustaining reading rooms which furnish nearly all the medical journals of the world; and by collecting a library containing at present 35,000 volumes and 20,000 pamphlets, which are free both to the profession and the public. The growth of

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the library is secured by donations of books, annual appropriations of the Academy, and special library funds, which, we hope, will increase.

"The number of its Fellows is at present about five hundred. They are elected from among the professional men who have practised medicine in New York City or its vicinity three or more years.

"By careful management and voluntary contributions of its Fellows the Academy has accumulated some property. It owns its building, No. 12 West 31st street, free of debt. That, however, is too small for its membership, its many and various meetings, and its steadily increasing library. The house not being fireproof, the library is in constant danger.

"A large fireproof building is, therefore, an immediate necessity. In recognition of this fact, Mrs. Anna Woerishoffer gave to the Academy the sum of \$25,000, Mrs. Celine B. Hosack bequeathed \$70,000, and Dr. Beadle \$5,000 for the purpose of erecting a new building. More funds, however, are required, and therefore we appeal to both the profession and the public to aid us.

"Some of the grounds on which we base this request are the following:

"The Academy is not connected with any school or college. It is self-supporting, and carried on in the interest of the whole profession. There are no fees or emoluments of a private individual nature. It is a democratic commonwealth with equal duties and rights. It is not supported or subsidized by the State or municipal corporation. Its aims are the elevation of the profession to a higher scientific standard for increased public usefulness. These aims concern the public as much as the profession. Increased scientific attainments on the part of the medical men of the country secure to the public great advantages and more effective services. Here it is that the interests of the public and profession meet.

"Thus we appeal to the wise generosity of the public, and request contributions large enough to enable us to accomplish the purposes for which the Academy was founded. The sum required is \$200,000. It will not be

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the first time for the well-directed liberality of American citizens to do what some in the old countries still believe to be the prerogatives of the centralized means of powerful governments."

You perceive we are not afraid to beg, or, rather, to announce now that we shall go a-begging shortly. We trust the time is opportune and we shall be welcome. For New York has undergone great changes. After trying hard to become the centre of industry and commerce, and having succeeded; after breeding millionaires by the hundreds, and riches untold; after raising itself to the front rank of the cities of the globe in money power and commercial dignity, the consciousness of accomplished results has taken possession of the minds who were chasing after their aims, and reached them. The stupendous generosity of wealthy Americans has been a byword in Europe this quarter of a century. But, indeed, of the variety and size of the gifts bestowed in the service of religion, charity, and science but few have a correct idea. Our sentiments have so changed that no longer do millions enforce respect and position for their own sake amongst cultured men and women except in exactly the relation to what they accomplish in the service of mankind. Among the public institutions which profited by this sentiment, the majority were religious and charitable. Of late the scientific have commenced to share the blessing conveyed by well-spent money. Medicine has been the last to enjoy the sympathy of the rich, and still the few remarks I have had the privilege to make before you ought to convince you that what you do for medical institutions you do for yourself and the commonwealth. Moved by *such* considerations, and from *that grand and sublime* business point of view, a single wealthy man and his family spent nearly a million and a half in building a solid foundation for the now best-equipped medical school in the land, *one* of the best-equipped in the world.

Their hope is, among others, that the one hundred or one hundred and fifty young men who graduate from that school annually will go forth with better preparation for their work and increased enthusiasm for the continuation

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of their studies, and that this school, together with the two other large and prosperous similar institutions of the city, will yield an example to those in other States, make them look to New York for inspiration, and their graduates come to New York to complete their studies.

We, the New York Academy of Medicine, apply to the public to add the crowning dome to the edifice. New York must have a medical profession worthy of the city. To centralize the profession, to elevate it socially and intellectually, to enhance its opportunities for development, to evolve a future most worthy of its past and in keeping with the proud position of the metropolis, a seventh part of the immense gift alluded to will prove competent. One-fifth of a million added to what we now possess will erect a home worthy of the profession of this great city; accommodate a large library such as we require and *will* possess; give a home to all the medical and scientific gatherings; become more than it has already begun to be, the head centre of the ever-changing, ever-developing and improving medical brotherhood; and form the centre of gravitation for the medical world of the whole land, and a welcome refuge to those coming from beyond the seas. It will suffice for thrice our number, rouse the enthusiasm for liberal studies which ought to begin, indeed does begin, in earnest, when the college doors close behind us, and aid in raising New York to be the city of learning, erudition, and culture, as it has become that of industry, commerce, and wealth.

It will have still another influence interesting to every one of you, not so much indeed as proud citizens of this much-berated and much-beloved New York, but as individuals. In behalf of your own domestic circle, of your children, and those who come next in your affections, it will aid in creating that being whose nature will be discussed to-night by a gentleman who is known among us as one of the most honorable, sturdy, philosophical, and learned physicians of the *present*, and whom I now have the great honor to introduce with his discourse on *The Family Physician of the Future*—Dr. Andrew H. Smith.

INTRODUCTORY REMARKS, ANNIVERSARY OF NEW YORK ACADEMY OF MEDICINE, 1888

As on several previous occasions, I again enjoy the privilege of introducing, in this medical hall, to a mixed audience, the orator of the evening. A dozen times during the course of every month these rooms are occupied by scientific meetings held under the auspices of the New York Academy of Medicine. Upon this one annual occasion, however, the public are invited to participate in the exercises of an official assembly. The respectful request extended to the public to join us is dictated by our desire that the aims and objects of the Academy, and through it of the medical profession, should be more fully understood by the community at large.

The object of the New York Academy of Medicine is the promotion of medical science and art. In the words of a circular lately published in behalf of a building fund—for the purpose of erecting a new edifice—"this is accomplished by lectures and discussions in the stated meetings of the Academy and its numerous Sections; by maintaining reading rooms which furnish nearly all the medical journals of the world; and by collecting a library containing at present about sixty thousand books and pamphlets, which are free both to the medical profession and the public." The number of its Fellows is over five hundred. They have been elected from among those who have practised medicine in New York City or its vicinity three or more years. But lately Fellowship has been extended to those residing in the State.

In its composition the Academy participates in many of the peculiar features of our political organization, which means to benefit all through the co-operation, if not of all, still of the best. In Europe an academy of

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medicine means a small body comprising a few select men only, appointed by the body itself, or by the political rulers. Thus the academies form an aristocracy of the mind parallel to the aristocracy of birth, with all its exclusiveness and real or assumed superiority. They are representative bodies only in this, that the best minds and most efficient scientific workers are expected or believed to fill the chairs.

The New York Academy of Medicine is a more democratic institution. Forty-one years ago it was founded by a number of medical gentlemen, but few of whom are still with us. Since that time, with the changes for good and bad appertaining to everything organic, it has developed and prospered. Its prosperity has been growing constantly, in spite of, or, as I am more inclined to say, in consequence of, its very constitution as an independent and democratic body. In the words of the same circular alluded to before, "the Academy is not connected with any school or college. It is self-supporting and carried on in the interest of the whole profession. It is not supported nor subsidized by the State or municipality." Whatever has been accomplished by it—its scientific labors, most of which are laid down in its Bulletins and Transactions, and in the medical journals of the country; the hall you fill, the library and reading rooms in the upper stories, the wealth of books and journals at the disposal of those eager to learn, and so numerous that they alone compel us to look for more appropriate quarters—all of it has been created, with but few exceptions, by the exertions and pecuniary sacrifices of the medical men themselves.

The election of Fellows takes place after a close scrutiny of their attainments and respectability. Beyond the condition of a three years' practice, we know of no claim on Fellowship except worth; age or worldly position do not count. The democratic spirit of the country, as represented in every one of the great political parties and those independent of official platforms, is exhibited in our organization. In the last years it has even been the special object of those at the helm to see to it that the younger

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and young men, those on whose shoulders the interests and dignity of the profession have to rest for the future, were given ample encouragement to work, to co-operate, and to teach. We claim that in so doing we have fulfilled the duties of citizens loyal to the spirit of the country and to the scientific exigencies of this time and that to come; secured the aid of all, roused a justifiable ambition, and awakened the sense of professional and moral fraternity and solidarity.

Thus the New York Academy of Medicine represents for you the choice of those interested and active in the promotion of medical science and art; such as have earned an international reputation, such as deserved well of the community by a life filled with services rendered to the public, and those who look forward for the accomplishment of their dreams and aims through coming years of honest labor spent on theoretical study and practical work. In this co-operation of the old and young, the illustrious and those unknown, promising or anxious to become so, the mature and maturing, you have one of the features of a unity of the profession.

Another feature of unity, which, moreover, ties the profession indissolubly to the community at large, is the labors performed in the interest of one and all. It is in these and their results that the community at large ought to have, and has, a deep interest. The more medicine has been founded on the study of the exact sciences—chemistry, physics, and physiology—the more its field of usefulness has enlarged. The more theoretical it appeared to become the more did it develop practical usefulness. Indeed, the dignity of a science or study rises with its ability of being utilized in the service of mankind. Nor is there any study so abstruse, any scientific hypothesis so apparently vague, but must and can be rendered profitable to the best interests of the race. No field has been more profitable than that of medical and scientific research. Thus the promotion of medical science and art does not mean only the improvement of diagnosis and of the administration of drugs and remedies, but that of the best means of placing the human being in the best pos-

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sible condition. The labor of the physician is not exhausted by carrying you through a severe case of illness; his duty and anxiety is to render you the, to him, less remunerative service of preventing you from falling sick. While it is his duty to save you from the consequences of your transgressions, his knowledge of their consequences leads him to protect you against committing them.

The peculiar relations of the individual physician to his patient or the family entrusted to his care are widened in the relations of the profession to the public. Great epidemics take the place of a single case, the protection of a community that of the guarding an individual, the hygiene of the schools that of the dwelling, the sanitation of a large city that of inspecting a suspected trap or sewer in a private domicile. The hygiene of the whole population, the superintendence of public buildings in which many people, young or old, are gathered, public hospitals, quarantine stations, the question of physical and mental elevation, of legal responsibility, are just so many parts of the domain of the medical profession. To legislate in reference to the pauper insane without consulting medical experience and knowledge; to pass a law according to which the president of the Board of Health of a city of a million and a half of inhabitants must not be a medical man; to refuse to abolish the usage according to which the medical expert even in a criminal case before a court of justice must not be a medical officer, appointed because of his special knowledge, but the paid aid of the contesting parties, reminds us of past semi-barbarism. If a salutary change will be accomplished, that result will be due to the influence attained by the medical profession over the minds of men. The Academy has been instrumental in producing such a change to a certain extent. From the Fellows of the Academy the Health Department has selected its consulting board of all its institutions; the Academy furnished to the same department a special committee to inspect and report on the condition of Quarantine, and it is to the report of that committee, as finally compiled by the late Dr. Agnew, that the exact condition of the Quarantine Islands was fully known and appre-

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ciated in all its mediæval recklessness and futility, and that the appropriations for improvement are largely due. Thus the profession, as gathered in, and represented by, the New York Academy of Medicine, is beginning to be recognized and known as both a proper authority in matters of public concern and the natural guardian of public health.

Why is it that I remind you of this? It is because it is never too often that we recognize the connection of the links with the chain, the member with the body, of the parts with the whole. Human society is an organism. It has so evolved as to consist of parts closely necessitating and depending upon each other. Men, trades, professions require each other for maintenance and development. Not that all are equivalent as to dignity and result; still there is nobody and nothing but is indispensable in the economy of nature or society. This knowledge of intimate correlation of all is the source of the conviction of the unity of the race, of uniform though slow progress, and the fountain head of republican institutions. In the medical profession, which like all sciences is a republic, this correlationship means a great deal. Medicine, both as a science and a profession, is an organism, the branches of which, after leaving the common stem, appear to start away from each other and get lost in increasing distance. The special studies which lead into the investigation of narrow paths and byways, and the specialistic practices which obscure the general view while throwing concentrated light on a special point, may appear to contract the scientific conscience and split the body medical into dissected splinters. But what seems unavoidable in an individual soul less endowed with breadth and depth, does not affect the comprehensive nature of science or the profession at large.

The really great specialist, the man who had no trade, but a calling; no cunning, but force; no itching for money or temporary popularity, but an eye upward to the sky in which he beheld inscribed the future of his science and its shaping and ennobling influence on mankind in general—that specialist was always a good physician,

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thoroughly well-informed, comprehending the intercommunication between the separate branches, and appreciating, as well in science as in art, both diversity and unity.

Involuntarily, when I made this remark, my thought turned to the gentleman whom I am to introduce to you to-night. The Council of the Academy has been peculiarly fortunate in year after year securing representative and prominent men as the orators on these occasions. During my terms of service I have had the distinguished honor to preside over meetings addressed by Drs. Noyes, Wm. H. Draper, and A. H. Smith. To-night it is a great satisfaction to be able to present a gentleman of equal and unquestionable worth, on whom I have always looked as one of the most representative men in the best of professions; a specialist with thorough general information on medicine, a medical man with the ideals prompted by conscientious habit and scientific spirit, he is amongst those best fitted to speak on the unity of the profession and the means of effecting it. A professional man with the best instincts of the citizen, disproving the narrow impression that a professional man must needs keep aloof even from the discussion of public affairs or the turmoil of political life, he might well be called upon to deliver a discourse on the means of effecting the unity of all party interests, both in science and life. Whatever he will say on his chosen subject, whether in accordance with the preconceived ideas of every one of his listeners, no one doubts two things—namely, that he knows exactly what he is going to say, and will exactly say what he knows or believes to be the truth, the whole truth, and nothing but the truth.

Ladies and gentlemen, I have the honor of presenting the orator of the evening—Dr. D. B. St. John Roosa.

VALEDICTORY ADDRESS, AND INTRODUCTION OF DR. LOOMIS AS PRESIDENT OF NEW YORK ACADEMY OF MEDICINE

Fellows of the Academy:

THE annual reports submitted to you during the four years of my presidency exhibit the gradual growth of the New York Academy of Medicine in many of its most important points. The library has increased in books, both old and new, the hundreds of journals you possess fill your shelves to overflowing, and the several library funds have accumulated so as to become available for regular purchases.

Your permanent fund is larger by more than a hundred thousand dollars than it was a few years ago, and your expectations of having a new and suitable Academy building are approaching their fulfillment. Though it may appear long since the movement in favor of erecting a new Academy was started, the delay was not due to procrastination. Protracted preparations made, and dozens of committee meetings held during the last two years have finally smoothed your path. They have given ample opportunities for exchanging opinions, removing doubts, spurring hesitations, controlling haste.

There never was in your Council and Committee a dissenting voice in regard to the question of the necessity of obtaining an appropriate building, nor was there a doubt as to the possibility of accomplishing the end. If there were any differences of opinion at any time, they referred to the selection of the best means of rendering you, and through you the whole profession, the best service. It is a source of great satisfaction to the retiring president to be able to announce that your Council and your Committee are unanimous, that they believe in, and are assured of, the near perfection of their plans, that

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there is no doubt as to the acquiring of the means, that the locality of our future home has been determined upon, and that we shall have a home for ourselves, our journals, library, and the medical and other learned societies of the city, before the term of service of my distinguished successor will have expired.

In the early period of my first term of service a few changes were made in the bylaws which have worked quite well. The only object of the Academy has ever been declared to be the promotion of the science and art of medicine. That article will never give rise to strife and dissension. Nor has the dropping of the Committee on Ethics produced the evil results which were feared by some. Indeed, the belief that the Council would prove a better Ethical Committee than one appointed *ad hoc* has been borne out by a valuable experience in a few cases where transgressors, by admonitions of a private nature, got easily convinced of the advisability of mending their ways. I allude, of course, mainly to the practice of advertising glaring reports of glorious deeds committed on other people's limbs and bones. Now, it is well understood that all of us live in glass houses, that the newspaper reporter is as ubiquitous as a police spy in an absolute monarchy, and that now and then even the most honorable physician has the misfortune to be shown up at the pillory of a penny-a-liner craving to satisfy the prurient appetite of the omnivorous part of the credulous public. But it is just as well understood by the smiling profession that the mishap of getting into print with unheard-of cures falls mostly upon the same gentlemen, of number one in *Main Puff street*, who are acrobatic experts in the art of balancing on the line fence which parts sheep and bucks.

Such things have always taken place and will continue to do so. For ambition and egotism are not always directed by moral self-control and intense regard for the public good. If the latter prevail no hampering written laws are required in a society of the educated and free. But public opinion, as represented in the Council of the Academy, will always, we hope, direct sufficient influence

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in supporting the morally weak or unstable. The Council, however, looks for its own authority and support amongst the Fellows who elected it. It is for the latter to direct this *Council*, as it is for the people to control their servants in public offices in the municipal and political commonwealth. It is your lookout to have in your Council not only the oldest, or those who enjoy a personal following, or even those who have made a deserved reputation by scientific labors, or those who are acquainted with the pecuniary and business affairs of the Academy, but those also who are known for the morality of their professional life, for their abhorrence of cheap and nasty notoriety, and their respect for the dignity and purity of the medical profession.

The number of Fellows has increased considerably. Nearly three hundred certificates were signed during the last four years. I wish, however, we had to report gains only; it often appeared to me that some of the losses we had to submit to could never be repaired. We shall long miss the persuasive earnestness, the unselfish bearing, the sound counsel, and the moral strength of C. R. Agnew, one of the nineteen we had to give up during the past single year, to say nothing here of the death of Sabine, Loring, and so many others who were ornaments and staffs of the profession.

Amongst our accessions there are many young men. It has been my object, since the Academy placed me at its head, to interest the best element of the young members in the welfare of the profession. Our Academy is, as I said four years ago, a democratic institution. It is not limited in numbers; on the contrary, it is desirable that the many respectable physicians should gather around its flag. Like our political commonwealth, it looks for its development and success in the co-operation of the competent and cultured masses. Like the Union, it is a voluntary confederation of peers, who make their own laws, and obey them because these *are* of their own making. All the Fellows have the same interests, both scientific and professional. Thus, in the Academy, the mixture of the best brains of the profession and the modest prac-

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tioners is capable of raising the standard of the average professional man far above the level of the European medical man. Anglo-Saxon medicine has always had the peculiar feature of being practical in the best sense of the word. For, indeed, the aim and end of all medical science is the prevention and cure of disease, and every special study is but a means of obtaining that end. In this respect also we are fortunate, for the number of those who are given to special theoretical studies is growing amongst us from year to year; the scientific spirit displayed by many of our young colleagues compares favorably with the ambitions and efforts of their European peers, and I look forward to the elevation of the standard, both of the Academy and American medicine, through the labors of the young, to whom belongs the future and whom I was anxious to bid here a hearty welcome. Nor will it be else but a gain to the Academy that the *Council* will not exclusively consist of older men only. Modern methods of study may and do mature in a proportionately shorter time those who embark in them, provided they be amply prepared. Science, though old, is always young; and the organism of the profession requires the proliferation and co-operation of young cells.

In my inaugural address delivered four years ago I remarked that our natural position was that of advisers of the community in all matters concerning sanitation and health. The more we represent the best minds of all ages in the profession, the more readily will the public and its legislators be inclined to listen to us. When they will have learned that they can rely on our knowledge and public spirit, they will, as they call on the bar for legal advice, consult the medical profession for their hygiene and sanitary necessities. I expressed the hope that, in this way, some time or other the President of the Board of Health would be nominated or appointed by the profession; that no Board of Education or of Charities would be considered complete without a prominent medical member; that medical bills, when supported by the whole power of the profession, would pass the Legislature without either delay or mutilation; that the supervising officers

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of factories, nurseries, streets, baths, gas houses, would be physicians; ay, that the most improbable thing would happen, which, in the opinion of men who are self-made in all their conservative ignorance and ignorant conservatism, has seemed a crime against Nature—that the governments of hospitals ought not to be without the presence of medical advisers in their boards. I speak of that simply to point out what *has* occurred. The Health Department of the city has, as you all remember, when Quarantine was found incompetent and dangerous, requested the sending by this Academy of a committee to examine and recommend plans for improvements. It is mainly in the line of the propositions of that committee, as collated by our late Fellow, C. R. Agnew, that the work of improvement has now been inaugurated. The same Health Department has requested the appointment by the Academy of a standing committee to co-operate, when wanted, with the health authorities, and selected the board of the consultants for all its institutions from amongst our Fellows.

The scientific work of the Academy during the last year compares favorably with previous periods. Many of the papers submitted to the stated meetings were of superior value and will last. They deserve, after having been published in the current literature, this preservation in a permanent form. Two volumes of Transactions have been printed during my presidency, and a large amount of material awaits the publication of at least as many more. Scarcity of funds must be no excuse for the neglect of what I consider a public duty. There is no large learned body without its Transactions. They never are expected to become a source of income; they are the proofs of existence, the connecting links between comrade bodies in all countries. To them, as well as to ourselves, do we owe the exhibits of our labors. I have no doubt that with the co-operation of the Council the energy of my successor will find the means of adding to our accumulated scientific treasures.

Besides the stated meetings you have worked in ten sections. My fondest hopes in regard to them have been excelled by many of them. If I allude mainly to that on

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Practice of Medicine, of Surgery, of Obstetrics, of Pediatrics, I mention but a part of those which have been eminently successful. They have brought out many papers and discussions of the first rank, given encouragement and opportunities to many who formerly had none, induced the young men in the profession to join in the general work, fostered scientific ambition, and by their publications aided in drawing the eyes of the medical world more than ever before to New York as a medical centre. Those who have aided in the labors of the sections may well be proud of their achievement. It is only by active co-operation that in the commonwealth both of politics and of science genuine citizenship is established. If the sections will enhance their work as heretofore, if they will see to it that only those fully competent and anxious to perform this duty, various and onerous often, be elected chairmen and secretaries, they will thrive as hitherto. Indeed, the scientific work of a large body like ours ought to be done mostly in the sections. The stated meetings of the Academy are in part given up to business. I should not think it a loss to the general welfare if even less than before the Academy itself would give its attention to scientific discourses. Perhaps a single meeting a month might suffice, provided that the sections contrive to increase their usefulness.

[After some further remarks regarding the work of the sections on Hygiene and on Therapeutics, the President concluded as follows:]

Fellows of the Academy, you must not believe that I have forgotten why I am here to-night—I am to introduce my successor. But before so doing I meant to express a few thoughts, both scientific and practical, connected with the welfare and the purposes of the Academy. Of the latter I have a high opinion. It is, and is to be, the head-centre of medicine in New York; by its labors and example it is to become the leader, we hope, of American medicine; it is the means of making many great, conscientious, truthful physicians. How high my opinion is of, and how profound my gratitude for, the advances accomplished by the arduous labors of specialists and specialties, I need not

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repeat here, after I have done so on many previous occasions and taken particular pains in establishing and facilitating the work of the sections. But what is uppermost in my mind is the love of my profession as an undivided one. Upon the general practitioner with his arduous, often unpaid, labors, with his mind bent in different directions and instructed through many channels; upon the great physician with his keen intellect, sympathizing criticism, vast knowledge, and moral tone, I look as the shrine of the many flowers, the pivot of the many wheels in the great machinery. He is, and is to be, the true representative of the whole medical profession, the adviser of both the public and the specialist, the centre of the medical household, the statesman amongst the scientific ministers of the community. If the Academy will succeed in always, for the future, showing one of them as its official leader, I am certain it will not miss its high destination.

Therefore, I am also certain of this, that you will thrive more than ever under the leadership of my successor. As my predecessor combined with his great practical experience a well-deserved reputation as a scholar, an unsurpassed renown as a medical writer, and the most exquisite urbanity of manners of the gentleman and leader, thus my successor is known to you and the whole country for his scientific attainments, literary labors, success in administration, and force of character. When you permitted me to nominate him personally for the high office he is to occupy, I looked upon that opportunity as a joyful privilege. After I have enjoyed these four years the highest honor the profession can confer, and your unvaried and kind support in the pursuit of our common interests, I now express my appreciation of the same, and my sincere thanks in introducing your President—Dr. Alfred L. Loomis.

ADDRESS AT THE LAYING OF CORNER- STONE OF ACADEMY OF MEDICINE

THE New York Academy of Medicine has called upon the profession and the public alike to assist it in this ceremony of laying a corner-stone. Where we are now standing there will be the home of the Academy, we believe, for generations to come. If we be mistaken, if this large building should be too small before long, it will be the pleasant duty of our successors to provide for their wants. That this may become necessary is possible, for the Academy has experienced a development rapid beyond expectation. Forty-three years ago it was founded; dozens of years it held its meetings in hired quarters; ten years ago it occupied its own building, No. 12 West 31st street; to-day we are preparing accommodations such as the profession of New York, or of any other city of the country, has never possessed. Meanwhile, however, the spirit and the aims of the Academy have remained intact. Among these aims are the cultivation of the science of medicine and the promotion of public health.

In the words of a circular published nearly two years ago in behalf of our building fund, "these purposes are accomplished by lectures and discussions in the stated meetings of the Academy and its numerous sections; by maintaining reading rooms which furnish nearly all the medical journals of the world; and by collecting a library containing about sixty thousand books and pamphlets, which are free both to the medical profession and the public." The number of its Fellows is nearly six hundred. They have been selected from among those who have practised medicine in New York City or its vicinity three or more years. Some time ago fellowship was extended to those residing in the State.

In its composition the Academy participates in many of the peculiar features of our political organization, which

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means to benefit all through co-operation, if not of all, still of the best. In Europe an academy of medicine means a small body comprising a few select men only, appointed by the body itself when there is a vacancy, or by the political rulers. Thus the academies form an aristocracy of the mind parallel to the aristocracy of birth, with all its exclusiveness and real or assumed superiority. They are representative bodies only in this, that the best minds and most scientific workers are expected or believed to fill the seats.

The New York Academy of Medicine, however, is a democratic institution. It is not limited in numbers; on the contrary, it is desirable that the many respectable physicians should gather round its flag. Like our political commonwealth, it must look for its development and success in the co-operation of the competent and cultured masses. Like the Union, it is a voluntary confederation of peers, who make their own laws, and obey them because they are of their own making.

The members have common interests, both scientific and professional. Since its foundation, with the changes for good and bad appertaining to everything organic, the Academy has prospered constantly, in spite of, or, as I am more inclined to say, in consequence of, its very constitution as an independent and democratic body. In the words of the same circular alluded to before, "the Academy is not connected with any school or college. It is self-supporting, and is carried on in the interest of the whole profession. There are no fees nor emoluments of a private or individual nature. It is not supported nor subsidized by the State or municipality." Whatever has been accomplished by it—its scientific labors, most of which are laid down in its Bulletins and Transactions, and in the medical journals of the country; the hall in West 31st street, the library and reading rooms in the upper stories, the wealth of books and journals at the disposal of those eager to learn, and so numerous that they alone compelled us to look for more appropriate quarters—all of that has been created, with few exceptions, by the exertions and pecuniary sacrifices of the medical men themselves.

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All classes of these are represented in the Academy. It shows you the choice of those who are interested and active in the promotion of medical science and art; those who have earned an international reputation; those who have deserved well of the community by a life filled with services rendered to the public; and those who look forward for the fulfilling of their dreams and the reaching of their aims through coming years of honest labor spent in theoretical study and practical work. In this co-operation of the old and young, the illustrious and those yet unknown but promising or anxious to earn renown, the mature and the maturing, you have one of the features of a unity of the profession.

Another feature of unity, which, moreover, ties the profession indissolubly to the community at large, is the labor performed in the service of one and all. It is in these labors and their results that the community at large ought to take a deep interest. Modern medicine is probably the greatest benefactor of mankind. The more medicine has been founded on the study of the exact sciences—chemistry, physics, and physiology, with mathematics—the more has its field of usefulness enlarged. The more theoretical it appeared to become, the more did it develop practical usefulness and dignity. Indeed, the dignity of a science or study rises with its ability of being utilized in the service of mankind. Now, the promotion of medical science and art does not mean merely the improvement in diagnosis and in the administration of drugs and remedies, but the discovery of the best means of placing the human being in the best possible condition. The labor of the physician is not exhausted by carrying you through a severe case of illness; he renders you the greater service, less remunerative to him though, of preventing you from falling sick.

The peculiar relations of the individual physician to his patient or the family entrusted to his care are widened in the relations of the profession to the public. Great epidemics take the place of a single case, the protection of a community that of the guarding a person, the hygiene of schools that of a dwelling, the sanitation of a large city that of inspecting a suspicious trap or sewer in a private domi-

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cile. The more in your Health Department the medical element predominates over the military and political, the more actual benefit will the people derive from it. The hygiene of the whole population; the superintendence of public buildings in which many people, old or young, are gathered; public hospitals, quarantine stations; the question of physical and mental elevation, of legal responsibility, of the State care of the insane—they all belong to the domain of the profession. This is not theory only. No grave question of the kind has come up without the gratuitous and spontaneous aid of medical men. The Health Board of the city has long appreciated that. The Academy has furnished a consulting board to all the Health Department's hospitals. A committee of the Academy was entrusted with the inquiry into, and the report on, the condition of Quarantine. It is to its report that the first appropriation for the building of the Quarantine Station was due, and to its recommendation that improvements are being carried out at the present time. In this way the medical profession excludes epidemics and guards both the physical health and the economic interests of the city. Imagine the pecuniary loss to the city if the cholera and the yellow-fever scare of a year or two years ago had not been prevented by the profession, as indeed it was. A week's panic would have been a pecuniary calamity amounting to the loss of a good many millions.

These are but a few examples of the value of medical services, both paid and unpaid ones, to the public. The health of the city is the foundation of its prosperity. Let epidemics prevail, and not only will your children die, your families be decimated, and the graveyards be filled with places where flowers and tears mingle, but your commerce will be drawn to other ports. It is due to increased knowledge and activity on the part of the profession, both official and unofficial, that, in spite of the unchanged severity of the epidemics and the rapidly increasing population of the city, the number of cases of diphtheria shows an absolute diminution.

Such, among many, are the services of the profession, not to speak of the gratuitous daily work of hundreds of

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medical men in the hospitals and dispensaries. Nobody can count or calculate, but everybody can appreciate how many lives are preserved, how many millions are saved for the poor and rich alike. From that point of view, a whole-souled, generous woman presented to the Academy twenty-five thousand dollars in recognition of the services to the public on the part of the profession, and in accordance with the esteem her husband held the profession in while he was alive. To this consideration we owe the bequest of seventy thousand dollars coming to us under the will of Mrs. Alexander Hosack, who had spent a large part of her valuable life with illustrious example of professional worth. It is the same thought that induced men and women with means, intelligence, and public spirit to make donations of five, two, or one thousand dollars. All we require now is fifty thousand dollars to complete this building. There must be many who have that sum, or a part of it, to spare in the interest of the profession; perhaps to commemorate the name of a dear one who has passed away, or to imprint his or her name—and a legitimate ambition it is—on one of the halls of the new building, or to perpetuate the memory of one who has been saved from a premature grave by the endeavors of one of those who are now striving to erect a home for the most practical and beneficent of all sciences and arts.

It is a home we want, more than merely a house. To make the house of the medical profession a home, it requires a library. This is to the profession what a tool is to the mechanic, an engine to the engineer, a telescope to the astronomer. A complete library represents the thoughts, experience, genius, and discoveries both of all previous centuries and the present time. All of these treasures must be accessible to the profession whose knowledge and skill is to be the safeguard of the public's best interests. To accomplish that end the whole medical literature of all countries must contribute. New York has never been satisfied with anything that is second class; it cannot afford to trust itself to a profession without the first order of learning and erudition.

Why do we insist upon physicians being erudite? Do I

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ask why do you apply to a particular watchmaker, an engineer, an architect, a milliner? You select him because you believe or know him to be well informed or skilful. And the physician? His practice is the application of knowledge acquired by hard brain work spent on all the learning and practice which have been evolved out of the labor and efforts of thirty centuries. A learned doctor may happen to be an unsuccessful practitioner for more reasons than one; but among those reasons erudition is not. An uninformed man is never a good practitioner; under equal circumstances, the more learned man is the better man in practice. Practice and learning do not exclude each other; on the contrary, the former depends on the latter. It ought not to suffice for your selection of a doctor that you met him at a bar, or a ball, or at a church meeting, or at which, in a concert, or on a hotel piazza, or that he be well dressed, pleasant, and tells you he is your "friend"; all these are fine opportunities and agreeable social and personal qualities which may also be considered when you are credibly informed that he burns midnight oil over medical literature, and that his professional brethren speak well of his abilities and achievements. And as far as medical friendships are concerned, your best friend is he who knows best how to protect you and your children and your parents from disease, and to cure them when they are sick.

The erudition we claim for the profession demands a large library of constant growth. A fund of \$100,000 will enable us to keep abreast with any similar institution. The library of the Surgeon-General's Office in Washington, which contains at present seventy thousand volumes and one hundred and thirty thousand pamphlets, is the result of industrious and systematic collections. It is not much over twenty years old, but it is the richest and most complete medical library in the world. Still its annual appropriations for the purchase of books have seldom exceeded \$5,000. Thus a fund of \$100,000 will enable us to procure nearly everything medical that appears in any land. Of that sum we have only \$10,000. One-half of that sum was set aside by the Academy, the other half is a donation

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separately administered in perpetual honor of a departed one. Such special funds, or additions to our general library fund, are urgently requested. The citizens of New York have developed a metropolis of large size and commercial power; they can well afford to tax themselves in the interest of medical science, than which there is none more cosmopolitan and humanitarian.

But it is not the medical profession only which will be directly benefited by the endowment of a large and complete library. The intimate relations of the medical and legal professions are such that much of what we require is found in law books, and the lawyer has to look for much of his information in medical literature. Indeed, forensic medicine, which originated in law, has its main representatives in medicine. In both the names of Plenck and Ploucquet, Farr and Duncan, and our own Beck, and many others of more modern times, are household words. Moreover, our library is a public one, free to the profession and the public. Now, there is a class of literature which, in a free and public library like ours, ought to be well represented. Laymen intending to avail themselves of it expect to find mental food adapted to their comprehension and taste. That sort of literature is by no means scarce. Much of it is of fair quality, some of it surpassingly good. Books on anatomical and physiological topics, those on subjects connected with natural history, hygiene, and statistics, will always be found interesting and instructive. They ought to be well represented in our library, for they cannot be found in large numbers in the public and circulating libraries. Indeed, the frequenters of the latter differ much from the class of readers consulting ours.

The additional knowledge acquired in this manner will not only improve a man's ability to protect himself and his family, it will also facilitate the work of his doctor. A person who has filled his mind with comprehensive ideas and sound facts will no longer study quack advertisements. He who has learned something about the functions of his body, and been taught to consider the correlation of causes and effects, can appreciate a disease to be the result of either a preventable or an unavoidable cause, and recognize

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that whatever disease was not the result of faith cannot be cured by faith, not even by faith in panaceas. The business of the quack may thus cease, the nostrum mixers may suffer, but individual and public health will be the gainers. There is less sickness in a man who has some knowledge of his body and its requirements; and when he falls sick he expects relief from natural and intelligible sources only. That man is a better patient, more accessible to reasoning, more obedient to the rules imposed in the interest of recovery. If he knows enough to recognize the superiority or inferiority of his physician, so much the better. To-day most people have not a sufficient knowledge to guide them in their selection; there are many who are so little informed that they do not so much as care. If, in a matter ever so trifling, a medical man is called as a witness before a court of justice, the first question he is asked refers to his membership in a medical society. The uninformed public, however, often select their doctor for reasons known to nobody, least, perhaps, to themselves. All this would be changed if a small part of what is the basis of a physician's thinking and knowing were made accessible and intelligible to every man and woman. A library like that which we intend to establish is destined not only to supply the professional man, but furnish healthy mental food to all those who are thirsty for knowledge. Those who have means to spare in the interest of public education, hygiene, and health, cannot possibly apply them better than by providing for a library fund sufficient for the gradual accumulation, from year to year, under the supervision of experts, of all the good, popular literature on the subjects of anatomy, physiology, hygiene, dietetics, and statistics.

May all this become true! We are preparing this edifice to be the head-centre of medical study in the city, an example to the profession of the country, and a resort for the brethren who come to us from near or distant parts. This building, when completed, will be an ornament to the metropolis. What is still more important is that we mean it to become and feel assured that it will be, an additional element of intellectual and ethical power, and in its results a blessing to the commonwealth.

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Mr. President, Ladies and Gentlemen:

A CIRCULAR published by a special committee of this Academy in January, 1888, contained the statement that the New York Academy of Medicine was an incorporated institution, then more than forty years old; that its object was the cultivation of medical science and art; and that this aim was, among other means, reached by maintaining reading rooms which furnished nearly all the medical journals of the world, and by collecting a library which was—and is to-day—free to the Fellows of the Academy, to the whole medical profession indiscriminately, and to the public at large. Our library was steadily increasing, the capacity of its shelves strained to the utmost, the building not fire-proof, and our accumulated treasures were in constant danger. For these reasons we appealed to both the profession and the public for aid in procuring for our meetings and our books a fireproof building large enough to accommodate two hundred and fifty thousand volumes, spacious enough to afford quarters to all the scientific societies of the city, stately enough to worthily represent the medical profession of the metropolis, and able to testify both to the unity and earnestness of that profession and the sympathy of the city, which at the same time is the largest in size and the greatest commercial power of the continent.

This library of the Academy of Medicine had a slow but steady growth. Thirty-three years ago, when I was admitted to membership, in the presence of the great and good men who then were the guiding stars of the profession, Alexander Stephens, Valentine Mott, Horace Green, Gordon Buck, Edward Peaslee, Edward Delafield, John Francis, John Watson, Ernst Krackowizer, there was no library at all, not even a medical reading room, in the city. It took many years before the Journal Association

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was organized, which furnished, in a room fitted up for the purpose in 64 Madison avenue, the current medical journals. Other years elapsed until an amalgamation of the Journal Association and the Academy of Medicine, then in 12 West 31st street, was brought about. The accumulation of the annual volumes, and a valuable collection of American journals and other books presented by two Fellows, were the first stock of the library. The journals were paid for by an appropriation of the Academy, which, being small in the beginning, for many years amounted to from three to four thousand dollars annually. More could not be spared. Thus it was that we could not purchase new books. Occasionally a sum was raised by voluntary contributions for the purpose of buying the collection of a deceased member, certain publishers would present us with their publications, authors donate copies of their writings, Fellows and others give old and new books, and men interested in special branches of literature furnish a shelfful of special works. The largest and most valuable addition of the kind was bequeathed to us by the great specialist, Dr. Freeman I. Bumstead. That was our library. Thus it grew slowly, but steadily. In the course of years our stock of journals became more and more valuable, but what we wanted was a regular supply of new books, for which we had no funds at all.

On October 2d, 1889, when I had the honor of addressing you at the laying of the corner-stone of this edifice, I could refer to the fact that at last we had, for the purchase of new books, a special library fund of ten thousand dollars, half of which was a memorial gift. For the same purpose and in the same spirit the widow of a deceased Fellow and vice-president has since presented another special fund of ten thousand dollars, so that one-fifth of the sum required for the perpetual endowment of the library is now secured. We are thus approaching the time when New York City will possess a medical library fully adapted to meet its ends. What are they? A large library, besides being the proof of existing culture and accumulated intellectual labor, fulfils its destiny by giving information. Here the medical man with scanty means will

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find his text books and monographs to aid him in unraveling the obscurities of a difficult case on hand. He with an ample library of his own will come here to consult rare books, old journals, expensive works. Here all the journals of the world may be consulted from day to day; here those who are engaged in literary pursuits find their historical records. But what a library is most successful in, is the inculcation in a great many of the habits of study and research. In that result the public is very much interested. Its safety and dignity require cultured and erudite physicians.

In the same degree that the ethical and intellectual standard of society is raised, the community will demand a higher standard of education and culture on the part of its liberal professions, among them the medical. A profession is called liberal in this, that it is generous, charitable, and high-minded; in this, that it liberates its members from ignorance and mental and moral hebetude. But in reality the medical profession of the country was mostly liberal in this, that it admitted to its ranks uneducated persons of all colors, sexes, ages, and previous conditions of servitude and illiteracy. Instead of being a truly liberal profession, it has merely been too liberal. In this tendency it has been encouraged, or, rather, this inferior standard has been forced upon the medical profession, by the public. He who requires manners in his corn-cutter, and demands gentleness in his tailor, would often not object to selecting for his family physician and public hygienist a medical adviser with the orthography of a village school, the touch of the corner grocer, and the mental level of a soap peddler.

From this depth the profession has risen spontaneously by study and its indigenous moral development. Not all of you know, however, to what extent you are under obligation to the medical profession. Fifteen years of incessant agitation were required to finally pass the bill for the establishment of a State Board of Medical Examiners. If in future you will be protected against practitioners who have nothing to show besides their diploma, granted by a college no matter of high or low standing; if the license

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to practise on you, your parents and children, will be made dependent on a second examination, you owe that blessing to the exertions of the medical profession. You might have made the result more striking. If the public had understood its interest you would have worked with us in behalf of making the State Board one, and not three.

Another achievement of the profession which concerns you as much as it does us, is the final passing of the bill requiring some degree of general education on the part of every medical student who expects to obtain his medical diploma. Thus a step is made in the direction of rendering the profession more liberal, more cultured, more effective, more fit to take charge of the most sacred offices that can fall to the lot of men. For the holiest and greatest of the objects of human study and care is man. That is so much a part of the creed of the medical profession that you can imagine the painful and contemptuous surprise at our learning that a medical man, in a public position, but fortunately not one of us, worked all winter to have the law repealed.

Fortunately not one of us. For from its very first days this Academy of Medicine had the elevation of the standard of medical education and culture inscribed on its banner. That object has become such a settled axiom in the mind of every Fellow that years ago it was no longer considered necessary to retain it in just so many words among the written laws. In this tendency you can sustain the efforts of the profession. Insist upon this, that your physician be a gentleman and a scientist, and do something for that purpose yourself. For the State does not contribute to that end. The State is only society organized for certain purposes of co-operation and protection. But medical education, though ever so indispensable for the pursuit of health and happiness and the training of erudite and liberal physicians, has not been recognized among them. But you who do not say to the hungry, the cold, and the naked, "Be ye fed, be ye warmed, be ye clothed," without helping them to food, fire, or clothing, must not expect a profession that always works in the private and public interest of yourself and all those dear to you and yours, to be at

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once learned, erudite, and wise, and refuse aid in its efforts to perfect itself and benefit the commonwealth, aid by pecuniary support, by your social influence, and also some occasional gentle political pressure on our representatives in Albany.

Our greatest drawback has long been that we had no large class of learned medical men, such as study for study's sake, irrespectively of pecuniary gain. Our profession has always consisted of practitioners. The necessities of life have acted upon the medical fraternity as on the community at large, which knew but exceptionally of art, of music, of philosophical refinement as long as the country was still wrestling with the difficulties of the soil, the insufficiency of commerce, and the hamperings of poverty. Thus the immense majority of the medical men of the country gloried in being practical, and that only. That there were architects who never laid a brick, mathematicians who never triangled a mountain, astronomers who never sailed a ship; that no cathedral, no coast survey, no ocean travel could exist without them; that indeed there is no rational practice without an underlying theory, was not considered. The very strongholds of medicine, histology, physiology, the fields of experimental labor and microscopical research, all those branches which you cannot immediately exchange for cash, have been neglected among us until lately. Like special laboratories, it is but a short time since great medical libraries have sprung up in Washington, Philadelphia, Boston, and New York. The sooner we admit that we have been far behind Europe in that respect, the better for our scientific future. Indeed, the intellectual maturity of a nation can best be measured by the amount of its original and unpaid research. Europe knows that thoroughly. The intellectual atmosphere of Paris depends greatly on its universities. The universities of Germany, with their independent workers and thinkers, have always been the pride of the nation, even in the distress of national poverty and political humiliation. In all of them the principal means of information through centuries have been their large libraries. And it will be our library round which the scientific interests of the profession

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will largely centre; but not of the profession only, for the Academy, as it opens its doors to whosoever will attend, without regard to membership, has always held that in order to increase the number of its beneficiaries it must make its library free. This is so well understood and so highly appreciated that the city has released the taxes on its building. A medical library contains of necessity many works and journals of interest to professional men besides medical. The lawyer and physician have many studies in common. There are in the city two societies for the special study of forensic medicine and medical jurisprudence, both of which can be better studied in a medical than a legal collection. Nor is a medical library, such as we have and mean to increase, a forbidden fruit to the intelligent, well-informed non-professional man or woman. Fortunately there are a great many good popular works, besides those compiled for an ephemeral market, which treat of physiology, hygiene, statistics, and other topics of universal interest.

Therefore, we hold that the profession has a right to look to the public for appreciation and aid. We are not situated as they are in Europe, where educational institutes, as they are controlled, are also supported by the Government. For the democratic spirit of our social and political institutions is opposed to centralization of that kind, and the generosity of the citizens has often been appealed to, and hardly ever in vain. There was a time when the Church, centralizing all information, beneficence, and social and political influence, was the only legatee of the rich and benevolent. Now there are a hundred opportunities for liberal outlay. To select the proper ones is an art. I suppose it is a great achievement, which only a few select ones can attain, to make money; but it is a greater art to spend it both generously and profitably in the interest of science and charity. The greatest of all charities, however, is to benefit mankind by levelling the road of science. It is not millions we want. A hundred thousand dollars will clear this temple of science from debt and swell our library fund to a sufficient sum, the interest of which will forever supply us with everything medical and scientific that will

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appear in any country. Well-to-do ladies and gentlemen will, I hope, not leave this building without making up their minds to contribute their share to the extinction of a debt which the community owes to the profession and to itself through improved educational facilities. "Let your light so shine before men that they may see your good works."

In conclusion, my friends of the profession may permit an additional word or two on the subject of the library, which is so dear to all of us that it was selected as the subject of a special address to-night. In one of its retired nooks I was sitting a few days ago, contemplating its past and future. I sat wondering how long it will take, and whether any of us older men will see the day, when America, after having given the political world the guiding example of a stationary popular government both conservative and perfectible, will lead the world of science, as it does that of politics, and, we hope, of healthful social development; wondering, also, how much this head-centre of the medical profession and this ever-growing library will contribute to that consummation, which you can hasten by industrious, honorable, and modest work—but by work only.

This library of yours has started from small beginnings, like medicine itself. It comprehends the labors of thousands of workers assiduously employed through long centuries. That one of them could be missed is difficult to say. For the co-operation of the many, the gradual development of ideas, the slow changes in experience and doctrines, are of as much importance as the revolutionary and epoch-making labors of the greatest. For no single man can stand alone, a law to himself and others. Even genius is the child of its time. No Washington or Lincoln, no Hippocrates or Aristotle, no Virchow or Pasteur, or even Koch, none of these immortal ones is a world by himself, and an isolated, self-lit sun illuminating and warming the universe. Every one has been raised on the shoulders of his predecessors. By that knowledge it is that while hope and energy are aroused, patience is taught to the individual and the profession. For while life is short, science and

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art are unlimited and eternal. And the comparison of what you furnish yourself with the existing mass of accumulated knowledge inculcates modesty and enhances zealousness. Thus good citizens are made and model scientists. Besides, what to the pupil the information gathered from the lips of his master, that is for you the collective bequests of all centuries as represented in your library. Thus an intellectual kinship is formed between you the living, and the spirit of all eras of history. That is what the study of the history of medicine teaches us, which we have so long neglected.

Pondering over the shelves, you behold abstract scientific treatises, works on practical therapeutics, and books on art and appliances—all of them composing our beloved "medicine." Remove the theoretical works on anatomy, histology, and embryology, experimental physiology, physics, and chemistry—what remains? The wreck of the edifice, the foundation of which is torn away.

Look at the shelves holding special literature. There the specialist will comprehend that his doctrine and art are but a minimal trifle when compared with the surrounding wealth, and that the basis and link of all specialties is general medicine. Every one of them evolved from a minute bud of the great tree, and but few have ever been able to grow up with anything like independence. Thus medical science, and art is shown to be an organism of slow, consistent, historical growth. Even the very excrescences—call them fallacies, superstitions, theories, schools, or sects—do not disturb the organic economy. In accordance with this, your very library, the representative and exponent of all medicine, is no longer a mere collection, but a vitalized organism.

That is why there is an atmosphere of solemnity in your large library; for you are standing in the presence of the spirit and soul of all previous ages, each evolving from and connected with its neighbor. That is why a library is to the scientist what the church is to the pious; or a museum of a hundred gems, like that which a generous Fellow presented to our reception room, to the artist. No consideration of lucre invites you there. While nourishing

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your minds, you disconnect yourself from the embarrassments of trivial employment and deliver yourselves from the merely terrestrial. In that way idealism is nurtured, that no feeling and thinking man is to be without; idealism, without which no nation can expect to live. When she lost it, even Hellas perished, though she had given birth to Solon, Pericles, Aristides, and Sophocles.

Let me suggest this reflection as a platform, my young colleagues. It is not a dream, but a reality, if you will make it so. By so doing, not only will you elevate your august science and the noblest of all callings, but you will also remain in constant and indissoluble intellectual and moral contact with the most cultured elements of society. If you do, this evening, which is both an anniversary and an inauguration, will prove a blessing for all future to both the profession and the community. Look upon this edifice not merely as a new and commodious building, but as the visible portal into a new epoch. If you do so, you will consecrate this solemn occasion as the Fourth of July of American Medicine.

REMARKS ON RUDOLF VIRCHOW

You have received more information to-right than I could give, and in choicer words than I can muster. Indeed, to do justice to the subject of our entertainment, I ought to have a degree of eloquence which I do not possess. Thus I beg to apologize for your chairman, whose fault it is—for it is not mine—that I am not permitted to spare you.

What we have to admire in Rudolf Virchow is, beyond everything else, his comprehensive universality of studies and aims. There appears to be nothing that is human to which he is a stranger. He has studied and fathomed a great many things, and has always done not only his best, but the best. In the domain of sciences he has been a varied specialist. His most splendid achievements were from the beginning on the field of pathological anatomy. Indeed, modern pathological anatomy—with all due credit to the French, who created the scientific medicine of the first four decades of this century, and to the Vienna school which followed them—is his work. That is a fact with which medical men who know the history of our science in the last fifty years are well acquainted. His revelations referring to embolism, leucocythæmia, chlorosis, and tumors were but the glorious forerunners of his cellular pathology, which has created a new basis for all of our modern views in pathology and therapeutics. These special studies, however, were always undertaken with a philosophical and humanitarian spirit. When quite a young man his ideas went far beyond the dissecting table. His reports on the typhus epidemics of Silesia and the Rhoen Mountains breathe the spirit which sighs for and loves mankind, and made an immense impression on the people at large. All his studies were directed, beyond eliciting new facts and evolving new theories, to enhancing the welfare of the race

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in general. Always did he insist upon this—that all science and every scientific effort must be able to be finally utilized for the common good. It is also from this point of view that he was a revolutionist and a leader of revolutionary thought during 1848, and never ceased to take part in the political exertions of the people in the direction of a liberal evolution of the institutions of Germany. Not only did this sense of duty prevail upon him to labor in Parliament for the rights of the masses, in opposition to an absolutistic government and the violence of a tyrannical and self-seeking chancellor, but his time and labor were spent on the duties of an alderman of his city these two dozen years. The sanitary improvements of Berlin, and the impulse given by them to all the cities of Germany and beyond, are mainly the results of his knowledge and his personal efforts. Thus all his theoretical studies were at once fertilized in the practical interest of mankind. He wrote a book on the necessity of unifying the medical sciences, and he lived a life proving the union of all human interests. In his scientific researches, each of which would have been sufficient to make the reputation of a great and gifted man, he did not, however, limit himself to medicine proper; what he has added to our knowledge on archæology and anthropology belongs to the very best any great specialist could have furnished to swell our stock of scientific possessions. Thus the universality of his genius and the immensity of his working faculties are quite unique. Perhaps there is but one man in history whose name is to be mentioned with the same veneration—that is Aristotle, who also was the expert in natural history, philosophy and philosophical history, and politics. But the knowledge of the ancients was limited, and its boundaries more easily reached. At present but few are so gifted as to embrace more than one or a few branches of scientific knowledge or research.

In all Virchow has labored for, there is the tendency of accomplishing a philosophical end, and of establishing a solidarity of all sciences and interests. His is no longer anatomical, or medical, or political science, but science. His aim is man and his improvement. Nor was his work

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ever rational; his science is not German, it is human, humanitarian, international, cosmopolitan. It is greatly through his efforts that the best men of all nations no longer speak of German, or French, or Anglo-Saxon science, but of science only. On that field fraternization has commenced in earnest. The specialism of science finds its final and hoped-for solution in universalism, and less in nationalism than in cosmopolitanism. Thus science, with its broadening influence, will guide the development of cosmopolitanism of the human race; the latter appears to spend this whole century on gathering and conglomerating nationalities preliminary to the future, which is fervently expected to evolve into fraternizing cosmopolitan communities. This is the tendency which, up to the present time, finds its best expression in the republican institutions and the hospitable customs of America. Thus it is most fitting that an American University of the first rank should have undertaken to celebrate the seventieth birthday of the very man who has contributed more than any other, first to develop, then to *despecialize* and *denationalize*, both scientific and humanitarian efforts. I have to thank your leaders for the invitation to be present, and do so with all my heart. It is becoming that we Americans should celebrate this day. For Virchow has worked persistently, unselfishly, gloriously—never for himself—always in the common interest of all mankind. Thus we pay homage, not to a stranger, but to one of ourselves.

VIRCHOW AS A CITIZEN

RUDOLF LUDWIG KARL VIRCHOW was born October 13, 1821, at Schivelbein in Pomerania, was educated from 1835 at the Gymnasium of Cöslin, went after his examination for "maturity" to the medical Frederick William Institute at Berlin—the school for military surgeons—graduated in 1843; became prosector in the Charité Hospital in 1846, gave courses in pathological anatomy; obtained permission to deliver lectures in the University of Berlin, as privat docent, 1847; was sent February 20, 1848, as medical expert to Upper Silesia to study the "hunger typhus" epidemic; returned to Berlin March 20th and delivered his report; was on account of it deprived of his governmental positions; reinstated in part only on account of the urgent petitions of a large part of the profession of Berlin, but remained then and for a long time in the honorable possession of the hatred aroused in the governmental party by his independent bearing, and his zeal in asking for reforms, and left Berlin to assume the offered professorship of pathological anatomy at Würzburg, to the great relief of the Prussian government.

This is how it all happened: When his communications on the Silesian epidemic of the starvation typhus were published, they were found to contain much more than the government relished. They were medical; there were histories of cases and autopsies; they were also historical, scientific, hygienic and reformatory. He described graphically and truthfully the revolting neglect through centuries of the Polish population of Upper Silesia, their poverty, dirtiness, ignorance and brutality, their mental slavery under the Catholic hierarchy, and their physical abjectness under the Prussian bureaucracy and feudalism. He looked for salvation not in medication, but in education; in social reforms, in culture with its daughters: liberty and welfare, in full and unfettered democracy; education of the people,

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agricultural institutes, raising and instructing the numerous orphans; road building and general recognition of the fact that, as he expressed it, "with our century begins the social era." A few weeks after he edited, with Leubuscher, a new magazine, the *Medical Reform*. In the first essay he pronounced the doctrine, that "the physicians are the natural attorneys of the poor, and the social problem belongs in its intrinsic parts to their jurisdiction." Then he urged a reform of the public relief of the sick which he declared must be obligatory; and the recognition of the need of a hygienic existence of every human being; reforms in the medical profession, in university education, and in the entire medical legislation. Do not forget that all this happened and was preached just before and immediately after the March revolution of 1848. Remembering that, you will comprehend why the Prussian government dismissed him, again re-establishing him in a part of his positions, unwillingly but under the pressure exercised by the profession of Berlin. For it was the time when the Prussian government, in spite of its temporary defeat, had retained all its absolutistic instincts, had exhibited all its cowardice common to all tyrants, and its senseless confusion during unexpected difficulties, its revengeful reactionary cruelty after unheard-of humiliation—indeed, on March 19th His Majesty was compelled by the victorious people to uncover his royal head in the presence of his dead enemies shot on the barricades of the day before. Thus it happened that when the call to Würzburg reached Virchow, he was encouraged by the grinning authorities to accept it. In the very last numbers of his *Medical Reform* he said: "The medical reform we had in mind, was a reform of science and society in general." Now you will also comprehend that among the revolutionary youth that died on the battle-fields or pined in dungeons, not a few were students of medicine.

Such a man never lost his interest in public affairs, and never gave up his labors in their behalf. The public hygiene of his country, of all countries, owes much to his study and initiative. He was the main factor in the great work of canalization of Berlin, the cultivation of vast ter-

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ritories by the utilization of sewage, the organization of medical care of the sick, the erection of hospitals such as Maobit, Friedrichshayn, Urban, Empress Frederick Child's Hospital, Dalldorf, Lichtenberg. The problems of tenements, of child and general mortality have forever occupied him. Nobody more than Virchow has taught the medical world the importance of medical statistics; nobody before him, or like him, has utilized physical statistics more uniformly and more successfully in the domains of anthropology and ethnology, and thus co-ordinated—under the influence of the same methods—all the branches of biological research.

The organization of the medical care of the soldiers during the campaigns of 1866 and 1870 was partly his work. The history of hospitals and hospital work was his study for years. It was then that he wrote what I had the proud gladness of quoting twenty years ago in regard to our doings on this side of the Atlantic: "The French army lost, in the Crimean War, thirty-three per cent. of its men, viz., 95,615. Of this number, 10,240 were killed on the battle-fields, and about as many died of their wounds in the hospitals. More than 75,000 men died of infectious diseases. In the American Civil War 97,000 died of their wounds, and 184,000 perished of infectious and other diseases. What a vast amount of pain and misery! What an ocean of blood and tears! And, besides, what a number of errors, mistakes and prejudices! It is not necessary to enumerate the long list of blunders and sins. They are so well known as to serve in the future as warning examples. Let me say here that it was not misfortune alone that showed where the cause of the evil was, and then provided aid. If the French learned little or nothing in the Crimea, and the Americans so much in their Civil War, as to create a new era in military medicine, the explanation is not to be sought for in the immensity of misfortune and misery undergone by the Americans, for they did not suffer any more than the French did in the Crimea. The explanation is in the critical and thoroughly scientific spirit, the clear perception, the sound and practical common sense which penetrated gradu-

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ally every part of the American military administration, and which, with the astounding co-operation of an entire nation, accomplished more humane results than any great war ever produced before. Whoever studies the copious publications of the medical staff of the American army, must again and again be astonished at the vast experience collected in them. Absolute accuracy of details, the most painstaking statistics, acquaintance with all branches of medical learning, and a comprehensive style, are united in them for the purpose of collecting and preserving, in the interest of the present and future generations, the new knowledge so dearly bought."

That is how a great writer expressed his knowledge, and a man fond of democratic government his sympathy with the results of the spontaneous work of a republican commonwealth. His interest in the welfare of the people he proved through many years by his participation in societies made up of the public at large; he lectured there frequently, mostly on physiological topics, and for dozens of years he has found the time to edit, with Holtzendorff, an immense collection of popular lectures contributed by special workers all over the land.

For nearly forty years he had a seat in the town council of Berlin. It was through his influence mostly, that Berlin with its more than two millions of inhabitants, is a clean, healthy, well-governed city, well governed in spite of the constant interference by the political government of the country. Indeed, I do not know of any large city that has for dozens of years understood so well the municipal interests of the people as differentiated from the political demands of the Empire.

Only yesterday the word was passed in the Council of Berlin that the encroachments of the government ought not be endured. Dozens of years he was a member of the representative council of Prussia, and of the parliament of the Empire. That he selected his seat on the benches of the opposition is self-understood. When he was young he was known to be a revolutionist. He was maltreated by the government to the full extent of its possibilities; fortunately for him, and for all of us, he was not caught

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on a field of battle or in a conspiracy, actual or alleged, that could land him behind prison bars; but his tendencies were well understood. When once he demonstrated his new discoveries of thrombi and embolism in a case of pulmonary obstruction, old Schönlein, who was watching the result of his clinical activity in the morgue, shrugged his shoulders and said: "I notice you see barricades everywhere." This barricader now raised barricades indeed against many a nefarious project in Parliament. Not only did he discuss questions of hygiene and education in which his authority was readily acknowledged, but he was always alert and effective in the treatment of political questions of every kind. The chancellor who never cared for principle or right, but for opportunity and might only, found in Virchow a lively critic and a frequent obstacle. There was a time when the great Bismarck challenged Virchow to fight a duel with him. The greater Virchow declined the honor of making a brute of himself, or of being made a corpse of by the vandal of blood and iron. His main adversary indeed was this man Bismarck, who through thirty years of oppressive measures, dissolution of Parliaments, governing without the assent of the representatives of the people, sudden changes both of economical and ecclesiastical policy and party affiliations, brutal assaults on the right of individuals, the freedom of the press, and the principles of the constitution that was purchased with the blood of the best part of the nation—though he succeeded in throwing into the lap of the Hohenzollern family additional large territories, and in obtaining for Germany a partial unity instead of the complete integrity we were fighting and conspiring for when we were young, has done more than any German in history to emasculate German politics and demoralize the public conscience.

Virchow, on the contrary, resisted to the utmost the lawlessness of absolutism, claimed that law should be supreme, the rights of citizens respected, the officeholders know and live up to their duties, the constitution be carefully guarded and protected, and peace not rendered more expensive and exhausting than even war through military expenses and pensions without limit, and the withdrawal

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of profitable labor, and enforced idleness of a million of men.

While engaged in scientific research, which in universality, novelty and reforming power is surpassed or equaled by none that is immortalized in the history of medicine, Virchow never ceased to feel that he did not only belong to theoretical and practical science, but to his people; and, moreover, while his theoretical work has always a practical bearing and result, so his political and social views have a practical tendency.

He was born one of the people, and remained a friend of the people. He need not turn politician, he was and is politician born. We in this, our country, are in frequent danger of forgetting that at one time at least, the most intelligent, wise and pure men of this nation were our foremost politicians. Without the controlling sympathy of the very best, the Constitution of the United States would not have seen the light. We have since descended sometimes, aye, many times, to the fear that only a second-rate intellect and a third-rate morality make a successful and zealous politician, losing sight of the fact that Aristotle already defined man as a "political being" and insisted upon the labor of all in the interest of all.

Virchow's example should teach, particularly young medical men, that thorough science and good citizenship do not exclude each other. Indeed, there is nobody so removed from the midst of his fellows, so absorbed in abstract studies, that has no interests in common with the rest of mankind. To prove your sympathy, what you have to spend in time, in activity, in money, should be given to the cause of the people, in the town and in the country, and particularly in critical periods of our history, like that of to-day.

The parliamentary labor performed by Virchow would easily have taken the whole time and all the efforts of a vigorous man of intellect. What was it to him who bears his eighty years lightly and has a right to ask for many more? In the preface of his "Morbid Tumors" he says his political work was his recreation from labors more fatiguing and onerous.

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His labors have been many like his honors that have been many. He has stood them all. His labors he sought, his honors came to him unsought.

There was a time when the powers politic would have been glad to destroy or to cripple him. When he proved the man of the century and the star to which thousands liked to hitch their cars, he became an unapproachable power himself. He became so big that they forgave him. Then titles would come, and places on government boards, and decorations enough to cover the liveries of a Chatham Street store. But more came to him.

There is no scientific body, medical, anthropological, ethnological, that does not feel honored by his accepting a place on its roll of honorary membership; no congress at which he is not the most honored guest; no book on any medical or anthropological topic in which he is not quoted as the main authority. And still more is due him. The history of the City of Berlin, beautiful, healthy, hygienic, could never be written without his name on every page; the history of Prussian and German politics will not be complete without it. The place of honor belongs to him, and to his friends who fought with him, and for the people. His place in science is secure, and his good citizenship will never be doubted.

His life is a great lesson to all. I see men of international fame here, of genius, covered with glory and loved and admired by all. But there is nobody who claims to equal him, or to do more than to imitate him. Now the lesson we should learn, do learn, from his example, is that no matter how high your position, how extensive your learning, how numerous your adoring pupils, you hail from the people, are one of them, part of human society, with duties of reciprocity and good citizenship. The lessons hundreds of my New York City friends should learn from what is going on this evening, is also this, that we in this town, of which we are apt to say we are so proud, and which we should teach to be proud of us, its sons and citizens, that we should learn from the presence of so many of the distinguished men of Baltimore, Philadelphia, and Boston—as busy as any of us and as necessary

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to the welfare of the people—how to sacrifice an hour or a day for a demonstration as sacred as this of to-night, that is taking place in New York, in Berlin, and many other centers of science and good citizenship. Never, never was there a more urgent call on the profession and a more appropriate opportunity for an enthusiastic meeting than this anniversary of this octogenarian, greatest in science and great in citizenship. It should not be said that Boston has Bunker Hill and Harvard, Philadelphia, Federal Hall and the oldest Medical School, Baltimore has Johns Hopkins, and we should not be told that New York has nothing but Wall Street and its spirit. Now, we, of this city, thank those who have come from afar to adorn this occasion by their presence and their famous names, for being with us. A similar opportunity may never arise for any of us. For history does not easily repeat itself, and the particularly grand blending of great qualities with immense powers is no creature of every decade or even every country. What Virchow was, what he is, will always be appreciated and honored. There is no ephemeral fiber in his existence. One thing we can say of him with Goethe: "He has satisfied the best of his era, he has lived for all time."

Wer hat den Besten seiner Zeit genug gethan,
Der hat gelebt für alle Zeiten.

RUDOLF VIRCHOW

Born October 13, 1821, Died September 5, 1902.

RUDOLF LUDWIG KARL VIRCHOW was born October 13, 1821, at Schivelbein in Pomerania, entered the gymnasium at Cöslin in 1835, and the Friedrich Wilhelm Medical Institute at Berlin in 1839, received his medical degree in 1843, became Prosector at the Charité in 1846, gave a course in pathological anatomy, was granted permission to give academic lectures in 1847, was sent as medical expert to Upper Silesia on February 20, 1848, to study the typhus epidemic incident to the famine, returned on March 10th and presented his report. In this document he accurately set forth the centuries-old negligence, the poverty, the dirt, the ignorance, the coarse state of Polish Upper Silesia, its spiritual enslavement through the Catholic hierarchy, and its material subservience as a result of the Papal-Bureaucracy and feudalism; and sought relief not in drugs but in culture, in social reforms, in education with its daughters Freedom and Plenty, in full and unlimited democracy, in popular enlightenment in agricultural schools, in care and in instruction of orphans, in road-building, and especially in the acknowledgment of the fact that "with our century begins the Social Age." For this he was deprived of his position, but upon pressing representation on the part of a great number of physicians and scholars, was in part reinstated. In 1848 he began with Leubuscher to edit *Die medizinische Reform*. The first issue contained the following: "The physicians are the natural guardians of the poor, and the social problem falls in great part to their jurisdiction"; and in the last number we read: "The medical reform which we had in mind was a reform of science *and* of society." Throughout the whole publication he preached reform in the care

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of the sick (which he held should be obligatory), the chance for every one to lead a hygienic life, reform in the medical profession, in academic instruction, and in the general medical organization.

Virchow, as "building-stone," was rejected by the Prussian government; in May, 1849, he was called to Würzburg as the "corner-stone." At that time, barring that at Vienna, this was the only professorship of pathologic anatomy. With Virchow there worked Koelliker, Rinecker, Heinrich Müller, and Leidig, in the physico-medical society which they founded. Under him worked Friedrich, Hæckel, Hofmann, Rindfleisch, Grohe, Beckmann, Gegenbaur, Czermak, and Kussmaul. From that time on he took over the publication of the Year-Book, which he edited in turn with Eisenmann, Scherer, Gurlt, Posner; and began the monumental, epoch-making Text-book where all the old things which were of use and much new material from the best authors in pathology and therapy were gathered together. Here, as often in his life, he proclaimed his faith in therapeutics. Before his departure from Würzburg to Berlin, in 1856, he published his *Collected Essays*, a pioneer work: "On the Endeavor Towards Unity in Scientific Medicine," "On Fibrin," "On the Colorless Blood-corpuscles and Leukemia," "Thrombosis and Embolism," "Inflammation of the Blood Vessels and Septic Infection," "Contributions to Gynecology," "Condition of the New Born," "Contribution to the Pathology of the Skull and Brain," and "Canceroids and Papillary Swellings."

Up to the end of the year 1856 J. Schwalbe, in his *Virchow-Biographie* 1843-1901 (Berlin, 1901), has enumerated more than three hundred articles.

Virchow's works dealt with anatomy, pathological anatomy, the science of contagion, the philosophy and history of medicine, biography, the nature of medicine, in fact, with all that is medical or is related to medicine. *The Archiv für pathologische Anatomie und Physiologie und für klinische Medizin* first appeared in 1847. Its one hundred and seventy volumes are models of original medical research, models for all time to come. In this, as in

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all his works, he is the representative of the proposition advanced by Johannes Müller, that the methods of natural science should be employed in medical investigations; of the abandonment of all faith in authority; of the search for everything that has truth in old and new; of the destruction of Rokitansky's theory of the discrosias (1846); of the foundation of microscopic pathologic anatomy (as a further development of the macroscopic pathology of the Vienna master); of the establishment of the fact that pathologic anatomy is not sufficient to explain the morbid life process, and that practical medicine is applied theoretical medicine,—a pathological physiology. In common with John Hunter, Magendie, and Traube, he stood for the necessity of pathological experiment. Finally he proclaimed the necessity for discarding the ontologic conception of disease.

In the year 1850 Virchow began to be assailed with doubts regarding a *generatio ab aequivoca*. His labors during the period 1850-55, when he was busy "gathering his threads," led him to the establishment of the axiom, *Omnis cellula e cellula*. In the cell he found the seat of the manifestation of life; the drama of life, normal and abnormal, has the cell for its scene; the seat of disease is no longer in a part of the body or in an organ, but in a cell or a group of cells. In this sense disease is always at first local, and rational therapeutics demands the art of localization. The first edition of his "Cellular Pathology"—that foundation of modern medicine—appeared in 1858. It was with full consciousness of the meaning of his work that the master said in his last lines that he hoped he had offered something to all physicians which would be of use to them in their practice.

His study of tumors began in 1863. He has shown us that tumors should be looked upon from a genetic point of view; that there are no such things as specific tissue elements; that a tumor is governed by the same laws which operate in the normal body; and that the essential difference between the various kinds of tumors consists in the fact that a tissue, which in itself is normal, makes its appearance in the form of tumor at times in such

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regions as normally contain that tissue, and at others in such places where that tissue is normally absent.

His epoch-making works of the succeeding period are those on anemia, on malignant endocarditis, on syphilitic products, and on trichinosis. Many of his later works are in the nature of reviews and critiques.

His attitude toward bacteriology has become especially fruitful because he checked the aggressiveness of the incompetent and defined the rôle played by the cells in the fight against living intruders and their poisons.

Fate willed that Virchow should achieve immortality not only as the founder of modern medicine. In his later life he fulfilled the program of his youth. Not in medicine alone had "the king builded and given occupation to the carriers." To him man was not only either sick or dead. Living man of historic and prehistoric times, man living in common with his equals, in small communities, in states, man in his pleasures and in his dangers, was for him both a matter for study and an aim in itself. Modern anthropology had in him one of its most fruitful founders and master-builders, archeology an enthusiastic patron, the public weal of his fellow man an untiring co-worker. Thus he addressed public meetings, published, together with Holtzendorff, an endless series of popular works, sacrificed his knowledge and his working powers in the city council of Berlin, gave his best in Parliament. He was the friend of the people, the acknowledged, the most respected, and the most hated foe of his oppressors. The two volumes of his contributions to the study of epidemics have not remained mere theory; the drainage system of Berlin and the irrigated meadows are his work, the founding of schools and of military and civic hospitals and their maintenance in a sanitary condition sing his undying praise. *Ecce homo.*

ADDRESS AT THE SCHILLER CELEBRATION

Aus dem Leben heraus sind der Wege zwei dir geöffnet:

Zum Ideale führt einer, der andre zum Tod.

Siehe, dass du beizeiten noch frei auf dem ersten entspringest,

Ehe die Parze mit Zwang dich auf dem andern entführt.

—Schiller.

THE question has been asked of me whether there was any practical relationship between my principles as an old-time revolutionary—which for you, of the present generation, means 1848—and my admiration of Schiller, or whether this relationship was rather of a theoretical character. The latter would be possible if it was a case of appreciation only of Schiller as a philosopher and historian. He has been outranked in both respects, although hardly any philosopher or historian ever lived whose works were the products of the innermost heart, as those of Schiller were. There is a vivid side to his life-work where his equal has not been found: to wit, his love for liberty and his poetical apotheosis of the same. His praise of Hellenism, of the French Revolution, his Robbers, his Fresco, above all his Wilhelm Tell, have a place of their own for all times to come. It is this that has made him the most popular of all German poets, and, above all, the idolized poet of all youth of idealistic tendencies and love for liberty. Youth never left him; with growing years and life-consuming disease, he remained unchanged. He died with the ideals of his liberty-loving youth. There are few to whom it is given to preserve their heart warm and young, but he will continue to live in the young of every generation and every century. Fortunately, youth is not always a question of years. Otherwise our fate would be pitiable indeed. Otherwise we should be compelled to rely for the survival of the principles of youth on a society to which it is given to rejuvenate itself in its members.

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Schiller owed his liberal inclinations to many different circumstances, certainly to his innate disposition; but, likewise, to the pressure of domestic and civic conditions, and to poverty, for to the influence of Rousseau, who stood forth for personal liberty, and to Kant, who was an enthusiast of moral liberty, sanctified by the sense of duty. His first drama was inscribed "In tyrannos"—against tyrants. The music of the language and the republican fervor of the liberty-dramas of Schiller are irresistible. It has inspired poets like Theodore Koerner and the fighters of the Wars of the Liberation of 1813, and has helped to keep up the spirits of the people during the time of oppressive reaction after 1815. For the Wars of Liberation did not bring liberty. Next to the forbidden library kept by us young students at Greifswald, it was principally the poetry of Schiller that formed for us a moral support, and an element of life. Thus, I can say from my own experience, that the spirit of Schiller continued to live and be effective in the liberal or revolutionary youth of Germany, of which a number of University students formed a part.

This, of course, does not say that the disposition and sentiment of the people depends on any individual. But, whatever is alive in a people, after it has been slowly developed, will be more easily realized when the adequate inspiring expression has been found for it. Not without reason, victories are attributed to the songs of Tyrtaeus. And Schiller's glowing, heart-reaching language has found an echo in thousands of young and never-ageing hearts, and will do so forever. For youth will never vanish in the course of coming generations.

Nevertheless, there has been a time in Schiller's life when he seemed to waver. When the French terror filled with fear the hearts, and with despair the souls, of those who were afraid lest the excesses in Paris might disgrace and destroy the Republic, Schiller expressed the opinion that education was necessary for the enjoyment of liberty. Man could be free only when he had learned to reason, and formation of character must precede free institutions. He was not the only one who began to think

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that we could not go into the water before we had learned completely how to swim, and who forgot that men never will be equal, never perfect, and that democratic institutions are apt, indeed, to produce something imperfect. But whoever has read Wilhelm Tell again and again will not be in doubt as to the republican principles of Schiller.

Neither an old blind seer like Tiresias, nor an enthusiastic apostle of liberty like Schiller, can be always in the right in every detail. Nature itself has not created the right thing in every instance, and the human mind harbors occasionally unreconcilable contrasts. But the keynote of Schiller is always in harmony with liberty, not in the narrow confines only of the State or Union. He was cosmopolitan; he writes thus to Jacobi: "As to our body we will be and remain citizens of our time because it cannot be otherwise. But in other respects and as to his mind it is the poet's and philosopher's privilege, not to belong to any people or time, but, in the proper sense of the word time, to be the associate of all times." In this sense he is the contemporary of all of us, and it is quite appropriate to celebrate him as one who lives, who lives eternally.

That you have postponed your banquet, planned months ago, in order to connect with it the Schiller anniversary is a cause of great satisfaction to me. You have founded your society, wisely, in the memory and perpetuation of your academical youth. This means that you like to revive the ideals which filled your young hearts, those ideals which ought to be met with not only on the summits of humanity, but with all of us, even the less fortunate. It is true, our immediate aims may be changed, but not our ideals. If you succeed in preserving the open, receptive heart of your younger years with the desire to produce the beautiful and the good, your society will not be devoted and useful to you, as individuals, but it will be of service to your fellow-men. Grown men, who have seen the joys and worries of life and have been hardened in the struggle with need or difficulties, from which nobody is exempt, will find it easier to escape the follies of youth and to replace them by new tasks. Of these there are

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a plenty in every human community, enough in civic life, especially in ours, where the many-sided interests, the rapid change of our social conditions give rise to many shortcomings and imperfections. The qualities which are eminently those of youth, especially of educated youth, the longing for liberty, the sense of right and justice, and an unadulterated sense of honor, these attributes of youth you—aye, we—will and must not preserve only, but develop. If this be done by large number, throughout our whole popular life, our democratic commonwealth will run no risk to deteriorate into an oligarchy or autocracy, or to deny to men an unctious justice and generosity and honorable treatment. Wherever this is done it means a lack in national honor. The honor of nations is not different at all from that of the individual. Modern politics has indulged in threatening and preaching violence. However, he who tries to decry and abuse, shows that he lacks himself the sense of honor and dignity. And many-sided is the meaning of Schiller's emphatic words: "Wretched is the nation that risks not everything to serve its honor." Honor, honesty, justice, ideal humanity, are the keynote to Schiller's historical, philosophical and poetical works. The best memorial celebration of the great prophet will not be concluded in one day, but with every day we walk his ways and follow his banner.

RESPONSE AT ANNUAL DINNER, HARVARD MEDICAL ALUMNI ASSOCIATION

THE PRESIDENT.—I shall next administer to you the favorite remedy of Theodore Turquet de Mayerne, who was a famous physician in England in the seventeenth century, “Raspings of a Human Skull, Unburied,” only I shall confine myself to the raspings from the inside of a particular skull, that of our eminent guest, who needs no introduction to insure him an enthusiastic greeting in this city and throughout the length and breadth of our country—Dr. Abraham Jacobi, Professor of Children’s Diseases in the College of Physicians and Surgeons, now the Medical Department of Columbia College in New York.

Mr. President and Gentlemen:

As long as it is the first object of your Association to advance the cause of medical education, and as you do not tire of seeing it printed at the head of the declaration of your principles, you will not weary to work for it, and will feel pleased with the assurance that fellow medical men from other parts of the country share your convictions and have ever been ready to work for their realization. Perhaps it would be best to close right here with expressing my satisfaction at your successes. Indeed, when the names of the very foremost schools are called, and those who have been among the first to improve medical education, your Harvard will be prominently mentioned, together with Johns Hopkins, Ann Arbor, and, I am proud to say, my own Columbia. [Applause.]

But, while praising the schools for their zeal and success in that line, I must not forget to credit the profession at large with being the most persistent worker in the field of progress. Our very schools, with few exceptions, were the result of private enterprise—an enterprise not always, originally, in the interest of individual self-aggrandizement, but often founded on the appreciation of

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the necessity of systematic teaching. Now, when finally the schools, or many of them, were slow in keeping up with the progress of science in teaching, it was again the profession at large which insisted upon improved methods and the addition of new branches to the curriculum. New chairs were endowed by alumni, and the democratic spirit of the institutions of the country was often reflected in the unselfish and progressive action of the scientific masses. Again it was the profession at large which year after year appealed to the legislatures of many of the States for the purpose of exacting State examinations after college graduation, and insisted upon a certain degree of preliminary education before matriculation. The persistent and self-sacrificing action of the profession is the more meritorious the more it became known that many of the colleges, some of which were until then highly esteemed by the profession, were bitterly opposed to every movement in favor of raising the standard of matriculants, and of introducing improved methods of teaching or causing legislative enactments which demanded a State examination before the license to practice was to be given. There are on record the stories of some presidents and deans of medical colleges who, after a preliminary education of some kind had been made obligatory by a newly passed bill, applied clandestinely for its repeal. College presidents and deans are expected to know their classics. They know the affecting tale of the Roman woman who, after stabbing herself, handed, dying, the dagger to her hesitating husband, with the words, "Non dolet"—"It does not hurt." Some of our medical educators on cash basis say of the money of the new matriculants—fresh from the plough, the country store, the backwoods—"Non olet"—"It does not stink." [Laughter.]

The colleges are not all like that. We know of some, at least, that have always worked together with the profession in the interest of progress. You will forgive me for always placing the profession foremost. Though I have been a college man almost all my professional life, and though so many of you are leaders and co-operators in a medical school, the democratic spirit of the republic

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of science makes me always feel proud of knowing that I am one of the file, marching to the same tune in the ranks, to reach a common aim, every fellow an officer himself. [Applause.]

There are some points on which all agree. A preliminary education is considered necessary as the basis of medical study, in behalf both of the student and of the welfare of his future patients. Still, the kind and amount of education required for matriculation are left uncertain. Harvard requires some Latin; other medical colleges, a common-school education, whatever that may mean [laughter]; some none at all. Such was the case formerly in most of the schools. New York State has passed a law requiring a moderate, a very moderate, amount of general knowledge, without which a medical student must not be granted a medical diploma. Now, it appears to me reprehensible that any student should ever be permitted to pass a preliminary examination at any other time than *before* matriculation. If he cannot then pass it, he has not attained the lowest possible degree of mental culture and habit of application demanded in a medical student. [Applause.] Besides, his college years belong to his medical, not to his preparatory, studies.

All those who have the elevation of the medical profession, through improved medical education, at heart, are also agreed upon lengthening the lecture courses, and an increase of the years of study; also, an extension of clinical instruction, not only as it is now, but in hospital wards, where the diseases are best studied, and in private practice among the poor, where, under competent guides, the necessities of a case are most easily learned, together with the means of doing the most possible good with the least possible facilities. Gradually, during decades of first tentative, afterward systematic attempts, clinical instruction has obtained its full recognition. When I established the first American children's clinic in 1860 it was looked upon as an innovation. To-day there is hardly a medical college in the land but claims to teach diseases of children as a special study. You here have a full professorship, and it is worthily filled. [Applause.]

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We have been told that medical education and its improvement is in part a money question; that it was so twenty years ago, when a three years' course was contemplated, and is still more so now that the question is one of four years. This innovation, so we are reminded, will break the backs of some of the best schools, and we must not handicap medical education too heavily. If that remark were meant, not for education, but educators, self-appointed educators, educators depending on and looking for students' fees, it would be more correct. [Applause.] A hundred thousand public schools speak volumes for the average information of the people; but three hundred medical colleges do not, by their number, prove the satisfactory condition of medical education and a high standard. If a number of medical schools would disappear, no harm would be done to anybody but a few of their professors, perhaps. [Laughter.] We have too many schools, too many doctors, too many students. There is a doctor for every four hundred or six hundred inhabitants of the country. We want more people, and can do with less doctors. [Great laughter and applause.] We can do with less doctors, provided the quality of both the people and the doctors will continue to improve. [Applause.]

We have also been told that the social habits of the nation require consideration, and the doctor must be at something like its level. Thirty years ago a doctor of my most intimate acquaintance was told he was "no *Deutscher Arzt*," "no German doctor," because he drank no beer. [Laughter.] It is said the people do not want or demand well-educated doctors, with heads and hearts equally trained. So we must adapt medical education to their wishes. We need not be told—we know that many popular clergymen and their wives, and novel writers and journalists, also our jurists, favor homœopathy, electricism, and run after Christian science and clairvoyance—you know they do. Please adapt your Harvard courses to the wants and demands of the superior intellects and the social habits of that "nation." [Laughter and applause.]

You are, when you consider the question of medical education, no longer advisers of the individual. We are,

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as a profession and a teaching body, responsible for the condition of things medical and hygienic which concern the State, the people at large, and mankind. We have no longer even to deal with the people of Boston or New York or Oshkosh, or any part of them. The most precious goods of mankind, of all classes, ages, sexes, are in our keeping. We are also responsible, all of us who teach, all of us who practice, to those who learn, to those who practice with us, and to those who will succeed us. The best of us is not too good for the present and future profession, and the best we can give is but what they have a right to demand. [Applause.]

"The social habits of the people." That would mean they must be served according to their own expectations, misguided by the accumulated ignorance of generations. [Laughter.] If it be suggested that the poor, the lonely farmer, the frontiersman, must be given up to an inferior practitioner, we have not sunk so low in our democratic country as to publicly proclaim the inferiority of certain classes, as they did in Germany, for instance. In Prussia they had a *Wundarzt* (surgeon) "of the first class," different from the second-class surgeon, whose functions consisted in pulling teeth, bleeding, and setting bones. This surgeon of the first class was permitted to practice medicine and surgery in all its branches, but only in such places where there was no physician, the place being too poor and forlorn to tempt a regular doctor. This *Wundarzt* passed his examination after *three* years of study instead of four, and was admitted to the lectures *without* a classical education. Thus his inferiority was stamped on him officially; and, being classed inferior, he was permitted to practice on the lowly. In Bavaria it was still worse. Only those graduates who passed their examination with the highest honors were permitted to practice on the military or the jurists or the shopkeepers or the whitewashers in the capital of his sacred majesty the king. The small towns and the farming villages had to be satisfied with the inferior doctor who had just escaped rejection. For them the medical rubbish was good enough. [Laughter.]

We are sometimes told that the population of the in-

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terior and our West is well enough off with that class of doctors, the poorly equipped and the uncouth. That is explained by alleged necessities. It strikes me as a sort of medical lynch law. [Applause.]

The fourth year of medical instruction, as it is contemplated, is to be given up mainly to clinical teaching. Besides, there are some branches which may fitly be lectured upon for, and studied by, the advanced students, such as embryology in its various relations not only to malformations, but to diseases which depend on hereditary predisposition, persistence of embryonic conditions, and foetal diseases. They are very numerous. Another is the history of medicine, which thus far has been sadly neglected by us. While it amplifies our knowledge and reveals the evolution of medical science and of epidemics, it makes us modest. In the latter there is no harm; for, as a rule, it takes the average graduate, say, five, ten, twenty, or forty years of professional life to become so.

The third is legal medicine and medical jurisprudence, the very doctrine which, while drawing upon all the teachings of biological and medical sciences, connects us most intimately with the public at large, and with its individual and social crises and diseases. In all probability special topics of hygiene would also be treated both in lectures and in the laboratory.

In the present condition both of medicine and of society these subjects cannot be missed; for the demands on the intellectual faculties, knowledge, and services of the physician are steadily growing. In the last century an erudite physician could at the same time be a learned philologist, or a medical professor would hold the chairs, for instance, of pathology and botany at the same time. Medicine was simpler then. The many component factors of modern medicine cannot possibly be gathered and conquered by a single brain. Still, improved teaching facilitates learning. In most things method is everything. I remember the time quite well when a medical professor would repeat year after year the reading in his lectures of his old manuscript. Now the so-called didactic lectures are giving way more and more to demonstrations and laboratory work. Be-

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sides, I firmly believe that all of our immediate successors will learn and think more quickly than I and others perhaps. To-day we adapt our thinking to our facility of reading or writing. In composing, we do not think, try not to think, faster than we can write. If we should all use stenography, we should become accustomed to accelerating our thinking. If our books were printed stenographically, we should not be hampered and delayed by the slow pace of our reading. Thus much time would be spared and the mental faculties increased. In that way the all-around doctor, who always was and always will be the philosopher and the statesman of the profession, will be able to cope with the difficulty of mastering, and bind into harmony, the overwhelming material furnished by special investigations.

Let me, after having made some remarks, disconnected and inexhaustive though they be, on medical education, add one on educators. I shall be very brief, not wishing to snub myself, and perhaps offending some who are not here. [Laughter.] Most of us here, I take it, are professors. [Laughter.] There may be a few who are not yet, but cannot escape. In New York we are all professors, nine out of ten; or, at least, we are instructors or clinicals, or we are cousins or friends of cousins of college-dears, and therefore "in it." [Laughter.] We have to-day paid our respects to the student. He is to know something before he matriculates. He is to study medicine four years. He is even to pass a State examination (except in Massachusetts, where my Harvard friends and celebrities and the Russian peddler who hangs out his shingle are practitioners equally "chartered"). [Laughter.] We expect big laboratories and hospitals to be endowed by citizens or the State for teaching purposes. We insist that society shall hold itself responsible for the health of the people. Boards of health looking after the sources of maladies, many of us claim that the State is responsible for the mental equipment of the practitioner who has to cure disease. Where do the professors come in? How are they to be appointed under a system of improved medical education? There are many ways of

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becoming or appointing professors, some of which are as follows: Thirty years ago I was offered the place of professor of diseases of children. I replied I could not think of accepting; I did not know enough. My friend, who was a professor and knew all about it, laughed, and replied, if he were offered a chair of nautics, he would begin lecturing to-morrow. That is, gentlemen, how I became professor of pædiatrics, only because there was no place vacant for a Columbus. [Continued laughter.] Others, as I suggested, are cousins, friends, assistants in private practice. To be rich, well connected, and have relatives among hospital and college trustees is a very good mental equipment. [Laughter.] Have a friend who is wealthy and endows a chair for you. In Germany, be a son-in-law of a leading professor. But lately I read of the death of a German *Privatdocent*, at the ripe age of seventy-four, whom I knew when he was already *Privatdocent*, but proved his incapacity for advancement by refusing to marry the daughter of the full chair. [Laughter.] Write a text-book while you are young and fresh. [Laughter.] There are so many that you can extract half a dozen, and make the seventh with the aid of very little brains and much more posteriora. Operate on two alleged lacerations daily, and let no more than fifty per cent. die of septicæmia. Prove that the best place for ovaries is in a jar. [Great laughter.] Render yourself a parody of the great Philadelphian, who makes a diagnosis before he cuts babies' skulls, by sawing without diagnosis. The first is seen and heard and heard of: the latter is not. On that line there are many fine possibilities. [Laughter.] There are not so many in others.

There are men who take things more seriously, at least differently. There are those who, after having been earnest students, bury themselves in a laboratory, or the dissecting room, or the hospitals, intending to finish their education on the day of their death. They will now and then publish an article containing the fruit of their labors, without printing their address or their office hours at the bottom. [Laughter.] They may write a book, text book or monograph, when they are ready, after many years

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of toil and thought. They will be professors after they have made a reputation, not *vice versa*. Or there is a way they have in Paris, where professorships are awarded after a long, meritorious life or a searching competitive examination. Thus there are many ways of becoming a professor, and those who are bent upon improving medical education will do well never to cease their efforts and watchfulness in their selections.

Mr. President, I shall now close at last. My cursory remarks or suggestions have possibly been only repetitions. If I appeared to display some levity, I did not mean it. [Laughter.] For, indeed, I feel very serious always about questions concerning the elevation of my beloved profession and the safety of the commonwealth. Both are identical. In matters of health and hygiene both depend on improved medical education and training. I might say, if I had time to discuss it, "medical and general education"; for the shortcomings of a one-sided technical or specific information, lacking general and broad culture, is perhaps best proven by the many people belonging to other professions who are taken in by medical sectarianism and downright quackery.

Why, now, do I insist upon a medical education which must appear, and must be, inaccessible to many? For the reason that the required public medical work can be done by a smaller number of men, and there is no ground for lowering the standard in behalf of those who must always be and remain inferior. For science must not be a milch cow. Medicine is no business; its practice is a vacation requiring ample brains and no narrow hearts. For the reason that in your classes of medical students you speak and teach above the heads of the less gifted, less prepared, and less industrious. The ideal standard of education must be measured by the capability of the best, not the worst. The perfectibility of the race, of science, and of the profession, and your own individual pride as teachers, go hand-in-hand. What appears impossible and utopian to-day may not be so in ten years or in fifty. Everything changes rapidly. Your very poorest graduate is familiar with many subjects no Boerhaave, no Hunter, no Bichat

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ever dreamed of; and in twenty-five years perhaps many of you, and all of your sons, will smile at the feeble inroads of to-day into the knowledge of modern etiological factors and, we hope, of preventive and curative therapeutics, which, after all, is the aim and crowning glory of all medical science. [Applause.]

REMARKS AT THE BANQUET IN HONOR OF
JOHN S. BILLINGS, M. D., LL. D.,
NOVEMBER 30, 1895

WHEN you, Mr. Chairman, in your irresistible and pleasant dictatorial way, told me a few days ago that I should be one of those who would speak here, I meekly submitted to what I prefer to call *your* fate. Originally I had expected to be on what you have seen mentioned in the books as a Weir Mitchell treatment, with ample rest, good feeding, and the most pleasing silence. But you willed differently, and I, "cedo majori," speaking for New York last, least, and briefest.

I look upon to-night's gathering as a manifestation of great moment. As a rule, a professional man's reward for long-continued work and meritorious services consists in the universal but silent recognition of his labors. We do not, as they do in monarchical states, attach long-winded titles to his honored name; nor do we ornament his coat with insignia and decorations; nor are there many instances in which his distinction and the veneration felt for him are substantiated by a calligraphically written and embossed address or other documentary evidence. To-night, however, many of us have assembled for the purpose of proving both to the profession and the public some proof that his colleagues love to publicly honor a great and good man, whose efficient work medical men all over the world have long learned to appreciate. I trust the notoriety of this occasion (I wish there were many of the kind) will prove to the community at large the existence of the public spirit which prevails in the bulk of the medical profession and of good will toward a deserving colleague. The jealous and mercenary spirit of a commercial era must not and does not enter into the ranks of a scientific and ethical

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brotherhood. That spirit may be natural and congenial to the stock exchange, the labor market, and industrial enterprises; but—"quod licet bovi non licet Jovi"—it does not govern the motives of the most humane of all the professions. Nor is this exhibition of the spirit of the profession without its reward, for the esteem the medical fraternity is commanding among the lay world stands in due proportion to the regard we evince for ourselves, for each other, and for our achievements, rights, and duties.

The last takes the first rank in the minds of whomever looks on himself as one of the cells constituting the living organism of science and of society. Therefore, appreciating my own duties, I try to read in the soul of our guest; unless modest to a fault, that he has the right to claim that there is no man who has been more active in the service of the profession, and through the profession to all countries. Not a year of his life but has been filled with the results of the labors of an always seething brain. Fortunately it was warmed by a generous heart and sustained by great physical powers. Thus only was it possible to know and amass books, old and new, to gather and systematize specimens, to write history, prepare censuses, exhibit statistics of the greatest value, organize the *Index-Catalog* and the *Index Medicus*, and the Medical Museum, and always to combine the powers of a savant and of an administrator. . . .

All of the latter are wanted in his present position. Hygienic institutes will henceforth require the best talent of the land. Modern and future medicine must rest on biology and hygiene, including as these do bacteriology. Thus far practical surgery has reaped the most beneficent harvest from their labors. Internal medicine has just begun to participate in their blessings. Antitoxins are to take equal rank with antiseptics and asepsis. Thus laboratories are the most efficient agents, both curative and immunizing, that is preventive. And the best minds should be placed at the head of the institutions destined to render experimental research subservient to suffering mankind. From that point of view I was not sorry to learn that Billings gave up his unique position in Washington to

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charge himself with the direction of his laboratory of hygiene. He is more than eminently qualified; for not only the best minds are required for such places, but the stoutest hearts also. A position like his is no longer a mere office; it becomes a mission. Modern medicine shares both in its objects and in its methods the dangers of a gospel. It is our present exact experimental methods that are constantly assailed by the obscurists of all countries and all stations in life. They have succeeded in almost crippling English physiology and pathology by depriving the most objective and brightest observers of any nation of the means of systematic experimentation. In our country we have had to exercise constant watchfulness over legislatures and wary lobbyists to ward off contemplated blows against the liberty of scientific research; and the last reports carry the news of a new onslaught along the whole line. Strong conviction, eternal watchfulness, and stout resistance of closed ranks will be required to fight and defeat the sickly sentimentalists who shed tears over a rabbit while staring in stupefaction at the epidemics of preventable diseases, which slay humankind by the hundreds of thousands, and call it a dispensation of Providence. In the imminent combat against misled ignorance and semi-instructed and opinionated fanaticism, we shall require not only universal co-operation, but also the strongest voices fit to be heard in the uproar of the battle. Such a Diomedé you have secured for Philadelphia. Show us many more, so as to enable us to convince the millions that the world of the future ought to belong to man and not to rabbits, guinea pigs, and horses.

We should not imagine that victory will be easy; even an attack once repulsed affords no security. It is a pity that this should be so, but this uncertainty must be borne along with the blessings of our political and social habits, of which it is the direct result. Individual, political, and social life cannot be at rest and settled forever in a progressive community. We are used to unceasing agitation. Constant motion clears the atmosphere; perpetual turmoil the stagnating waters of the ocean; and it takes a restless and never-pausing circulation in protoplasm and cells to

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preserve the health of organic life. Thus, if we must fight, let us do so with the conviction that through fighting only in accord with what we forever see in living matter can we work out our salvation and that of mankind. It is certainly true, as the great German proclaimed, that only he earns both liberty and life who conquers them on every one of his living days.

I came near forgetting, however, that I am speaking before my betters, recognized masters in modern medicine, and, I trust, just as conscientious citizens of the political republic as they are leaders in that of science. There is no use carrying owls to Athens, or to speak of the duties of the medical profession to the successors of Rush and Physick. The mention of these illustrious names carries me back to where I started, to Philadelphia.

What shall I say of and to Philadelphia and of this grand demonstration of hers, for hers it is? From what I know we should not be here without her having taken the initiative. It is but just that she should have done so, for indeed she is equally interested with all of us, and the gainer by far for gobbling up the guest of the evening as her own immediate property. She reminds me in part of what William Sterling in his life of Charles V says of Austria: "Bella gerant alii tu felix Austria nube—let others fight, Austria makes her fortune by marrying." So Philadelphia enriched herself by having Billings wedded to her. Still let us be just and admit that she never was a mere receiver and that he made no contract with a mean spouse. From the time of Benjamin Rush to the present, American medicine found a home and fertile cultivation in Philadelphia, and not a few of her medical citizens have been Rush's successful rivals in all his exertions and achievements. That is no mean praise if you refer to what is said of him in *A Century of American Medicine*, by Edward N. Clarke, Henry I. Bigelow, Samuel D. Cross, T. Gaillard Thomas, and J. S. Billings. In the article on "Practical Medicine," written by Clarke and R. H. Fitz, Benjamin Rush is called "a devoted enthusiast in his profession, an ardent patriot, a lover of liberty, eminent as a physician, dis-

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tinguished as a philosopher and a scholar, who, holding a high social position in the community, contributed largely to raise the profession of medicine in the estimation of the community in which he lived, and of the whole country." I am anxious to add that this very day the ranks of Philadelphia's great physicians contain more than one man to whom that eulogy bestowed on Rush would be but a just tribute. Thus, while she may be envied because of her securing Billings, she offers no mean gift to the newcomer.

And now a word about this newcomer and old friend. At the close of my remarks I mean to become quite personal and tell a story. Those who know me well are aware of my not committing many sins of that kind. I am even suspected of not knowing any stories at all. But there are a few in my repertory, and their beauty consists in their being true—some of them. Now, there was a letter written fifty years ago, somewhere in South America. It bore the address, "Alexander Humboldt, Europe." That letter was not slow in finding the little great man in his side-street in Berlin. In the same way the honored guest of the evening is called by me and all of us "Billings," not even Dr. Billings. Not in my most melancholic dreams did it ever occur to me that he would condescend to descend to our level. I say our level, for I am afraid there are but few here so distinguished as not to be professors. Most of us, I fear, *are* professors, more or less. And Billings is one of us now, I am told. But I need not be told that he will remain big enough to require no title additional to that which he carried in Washington. That title was "Billings." And I also know that when in Europe—which, after all, is also a part of the world—and in the rest of the continents, men whom we all know and revere count the very best names of all countries, one of the few will be "Billings, of America."

PRESIDENT'S ADDRESS BEFORE THE ASSOCIATION OF AMERICAN PHYSICIANS

GENTLEMEN: The scrutiny of the program you have prepared for this meeting of the Association of American Physicians yields an eloquent exposition of its scope and aims. The fellows who are offering their contributions to the discussions of these three days, have in the distant parts of the country, each by himself, and unknown to their far-away co-operators, acted the parts of different constituents of an organism. Indeed, whatever conduces to make up internal medicine, from the special biological study of a coccus to the prognosis in a particular disease, from the etiology of a morbid condition to its therapeutics, from the consideration of a local ailment to that of public hygiene, is well represented. Gathering up the apparently detached threads, I therefore find it far from difficult to express in a few words what I consider to be the relation of medicine, such as it is exhibited in this Association and on its program, to medicine as it is taught and practised, either undivided or in its specializations, and of this Association to its national sister societies.

At a time when a number of national special organizations had been in existence several years, it was founded, I take it, because the leaders felt that the natural tendency to the division of scientific labor should be, not checked, but guided by a controlling hand, and that the independent position of internal medicine should be demonstrated and vouchsafed.

Since Boerhaave, aye, since Galen, specialties branched off from the original trunk of medicine. The accumulation of experience, the multiplicity of observers, the increasing depth of studies, the perfection of tools and instruments, and the limitation of the capacity of individual practitioners, at one time even the dictates of the Church, have from century to century, and lastly, from decade

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to decade, added to the number of specialties in practice and of specialization in study. Indeed, at the present time, a medical man may do his full duty to his profession, be an expert largely quoted, the first among his peers, and a peer among the first, an authority of the first rank, without ever having paid the slightest public attention to the demands of social hygiene, or for years seen a single sick-bed. On the other hand, there are those most of whose time is spent and efforts exhausted in attending to the sick, both in hospitals and private dwellings. Their observations may be quite as correct as those of the microscopist and experimenter, but they are not so easily proven to be so. In their case it takes, as a rule, a large number of statistical data to establish facts as truths and worthy of acceptance, for, indeed, truth is not so simple as many a proverb will have it. The reason for this is manifest. The object of the microscopist is single, is one, and still mistakes are made; for explanations differ in regard to what has been seen, and corrections and refutations are numerous. That of the physician is complex, therefore more difficult. His subject is man, and usually man whose physiological functions are disturbed by a pathological process. His work is also more comprehensive, his aim higher than that of a practical specialist who claims to deal with a single organ. When we look upon modern specialties as they frequently are, not as they ought to be, practised, we have to admit that they suffer from the danger of limiting the view of the practitioner. An isolated organ is the center of his perspective, and everything not enclosed in his field of vision, which is occupied by the organ of his choice, is doomed to remain insignificant in his estimation. Moreover, the mercantile and mercenary spirit of the end of the century manifests itself in occasional eagerness for early reputation and social and financial success. The public is easily impressed by visible manipulations and manual dexterity, and unable to follow or correctly rate the results of unobtrusive and unornamental brain work. Thus it is, that to establish himself in reputation and standing among laymen, it takes the accom-

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plished physician as many decades as it takes the young specialist years. On the domain of practical medicine, the specialties have gradually encroached. No cavity but has been invaded by the surgeon, no special organ ever so small but what has been appropriated by a specialist. Is it true, however, that medicine becomes more surgical or specialistic? Is it not rather to be demanded that surgery and the rest of the specialties should remain, or, more than hitherto become, medical?

It is not given to me to value scientific labor, beyond the personal happiness conveyed to the searcher for truth by the broadening of his mental horizon and by revelations never manifested before, except by the good it does to the race. *Nisi utile est quod faciamus stulta est gloria.*

The researches which have contributed most to the success of all branches of *surgical* medicine are the same that have added to our knowledge of a large number of infectious diseases and benefited both private and public hygiene. That is where the bacteriological hermit, the studious histologist, the bedside practitioner, and the public statesman join hands. That is where medicine proves itself to be the benefactor not only of the individual, but of mankind. Political economy and individual and public hygiene are equally interested in the progress of medicine. When society will have passed beyond the mire of mercenary wire-pulling and bickering, when every man will be a political being in the sense of Aristotle, with the tendencies of the statesman rather than those of the politician, when the welfare of the people and race will be the only aim of enlightened representatives, then the medical man will be either the legislator or his adviser, and medicine will take the place occupied in remote medieval times, before there were so many churches, by the Church. But to accomplish that end medicine must remain one and indivisible.

Looking over the programs of the Climatological, Pediatric, Gynecological, Neurological Associations, and the rest, you recognize subjects familiar to yourselves. Let them acknowledge their origin, and the ties are no longer

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severed. Surgical *science* is medicine. Its *art* only is what constitutes the specialist. The methods of surgical diagnosis are medical. The very sources of its practical success are the pharmacological, biological, and histological laboratories. The very best minds of both hemispheres were always anxious to enforce the union of the *disjecta membra*. No science deserves its name unless enlivened by this idea. Imagine, for instance, anthropology to relinquish its throne and acknowledge the independence of its different branches. The collective studies of crania, or of hair, the peculiarities of the Esquimo tribe, the relationship of languages, they are branches of and contributions to science, not sciences. This knowledge of consanguineous unity was the cause of the formation of our triennial congress. From that point of view this Association, with its annual meetings drawing on, and combining, pathological anatomy, histology, bacteriology, chemistry, physics, and all the practical aids offered by the mechanic, the optician, and by all the specialities, whose number leaves nothing to be desired beyond that it might be smaller, and with its constant contact with the interest of the commonweath, takes the place of the triennial congress. One of the wisest members, in my opinion, of this Association was once asked by me what he did in a certain case. His answer was: "Among other things, I prescribed a surgeon." One of the leading specialists of the country told me after he had inspected a volume of our transactions: "I know how to operate on an eye, and now and then I succeed in making a good brain diagnosis. After all, however, we do retail work. When I want statesmanship in the profession I look to internal medicine."

Among the constituents of scientific and practical medicine there is one which has not yet succeeded in conquering its legitimate place, viz., therapeutics. Fifty years ago in Vienna, and where its influence was paramount, the interest in man began at the autopsy. It had become, and occasionally still is customary, even with large minds, to scoff at the value of internal therapeutics. The effects of the knife, the actual cautery, the tourniquet, the local

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applications on the integuments are readily conceded. But the natural difficulties of directing and controlling the action of drugs on distant cell conglomerates, either fluid or solid, are often emphasized and exaggerated into alleged impossibilities. That is a mistake, for the merely empirical character of therapeutics, which, after all, has a value of its own, is to a large extent superannuated. The diagnostic methods of Laennec (with whose illustrious name that of Auenbrugger ought always to be thankfully associated) and of Skoda, and the introduction of the thermometer by Wunderlich, enabled us to prove some of the local or general actions of medicines. The efficacy of local treatment was proven by Hebra in the treatment of scabies, in the very face of the nihilistic school of Vienna. Pravaz's invention, as ingenious as it was simple, facilitated local administrations with tangible and instantaneous effects. The separation of alkaloids, beginning with that of morphine in 1817, strychnine in 1818, caffeine in 1819, added to the accuracy of effect and of observation. Experiments with drugs on animals have vastly contributed to the exactness of our medication, though it is true that every newly discovered fact is liable to be accepted or not with the protest that whatever happens *in corpore viti* need not be applicable to man. In that way we are mainly indebted to Wepfer who worked as early as 1679, to Magendie and his pupil, Claude Bernard, and to the greatest of them all, Karl Ludwig. Nor was it animals alone that were utilized to accomplish accuracy in the application of medicines. Observation of their action when given to the well and the sick has vastly increased our knowledge in spite of the absurd caricatures furnished by that erudite quack, Hahnemann.

Nor has chemistry and pharmacology, which was in due time separated from pharmacy, been idle. The changes undergone by medicinal agents were studied by Mitscherlich, Schmidt, Wormley, Horatio C. Wood, and Schmiedeberg, and the dependence of the effects of medicines upon their chemical structure by Richardson, Brown and Frazer, with the final result of creating through synthesis new and powerful agents. One of the most promising obser-

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vations was this, that certain bacteria are capable of immunizing animals against the action of certain poisons, either through the metabolic products of bacteria, or by the very serum alone of such immunized animals. Finally it was found that as the absence or the diseased condition of the thyroid gland caused serious disorders, so some of the latter could be corrected or cured by the administration in different ways of thyroid tissue or its extracts. These very facts, and the results of serum therapy, and the promises of organotherapy in general, which we expect to be fulfilled in the near future, are most hopeful signs. We are, therefore, amply justified in believing that internal medicine will soon reap many of the fruits, thus far harvested by external medicine, from the fields of biological and bacteriological laboratory work.

This is more than hope. It is the more a certainty the more surely and frequently physiological and pathological functions are shown to be chemical. Bacteriology, advanced as it is beyond tentative beginnings and the overbearing claims of youthfulness, does no longer pretend to cover the field of etiology. It recognizes the difference between the entity of a disease and its cause. All organic changes in the cells and protoplasm are either physical or chemical, or both. Bacteria cause local infection, usually primary, rarely metastatic in character, but never the constitutional symptoms of a disease. These are produced either by proteins or toxins, the products of the very microbic bodies, or ptomaines, the products of the cells in which the presence of microbes worked an abnormal metamorphosis. The latter, however, does not result from bacteric influence only. Chemical, mechanical, thermic changes, are apt to influence the normal vital processes, which again impress, or are impressed by, the peculiar individual disposition created by age, hereditary influence, previous illness, state of nutrition, nerve force, and the conditions of rest or exhaustion. What a wonderful and complicated chain of mutual influences and possibilities, and what subjects for study for this Association!

The normal vital processes depend on two powers, the cells and the blood.

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The very structure and function of the former are acted upon or built up by the latter. Thus it appears, as our master, Virchow, has lately pointed out, that finally we return to a species of humoral pathology, but not indeed to the crases and diatheses of old. For modern humoral pathology looks for the presence in the blood of actual agents mostly of chemical nature. Part of them has been shown to be so; in the case of others we have to rely on inferences. Still, with peptones, acetone, sugar, with acetic, lactic, oxalic, uric, and oxybutyric acids in the blood we are fairly acquainted; and the discovery of Fraenkel's thyreo-antitoxin proves to what extent the action of the organic juices is mainly, if not altogether, chemical.

The interests of the practitioner and his patients, of medical science and the commonwealth, are equally served by these views when tested by practice. As an Association we have to deal with the interests of science and of the community; of the latter even more than it is willing to understand or to admit. We, however, need not be exhorted to continue our work. The misunderstood sympathy with the alleged sufferings of animals, and the anti-vivisectionists—no matter whether merely misinformed or fanatical—must not swerve us from studying, from learning, and from serving mankind by combining our efforts for public purposes. The hygienic interests of the community are, or ought to be, in our keeping. Your Association being the scientific representative of internal medicine in America, ought to be recognized all over the Union as the scientific law-giver. What the New York Academy of Medicine is expected to become for New York City, this Association through the scientific labors of its members ought to be for the Union and beyond it. In order, however, to attain this destiny, let us not forget that medicine must be one and inseparable, now and forever.

Some of our collaborators have left us during the past year. Dr. James Edmond Reeves, who was a member since 1887, and died at Chattanooga, Tenn., on January 4th, at the age of sixty-six years, was one of those who happily blended a strictly scientific ambition, as exhibited

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by his "Practical Treatise on Enteric Fever," and his "Manual of Medical Microscopy for Students, Physicians, and Surgeons," also by his paper contained in Vol. V. of our Transactions, on "Some Points in the Natural History of Enteric or Typhoid Fever," with a sense of duty both as a public servant and a citizen. From his early professional years he interested himself, both as a fellow of scientific societies and as a health officer, in public hygiene. He was the author of the law creating the State Board of Health of West Virginia, and it was he who felt bound and was able to take up, single-handed, a successful fight against a "consumption cure." At a time when the practice of medicine is frequently degenerating into a trade, and the number of quacks, and especially consumption quacks, is swelled even from among the ranks of men armed with medical diplomas and possessed of official positions, his undoubted courage and moral strength are bright examples that should not be forgotten.—What I said of the combination of special medical interests, and the instincts and aims of a good citizen, is also due to the memory of Dr. James West Roosevelt, who died in New York on April 11th. He was, though a member of this Association since 1889, one of the youngest of us, being but thirty-eight years old when he died. More extensive obituaries will refer to his various monographs contributed to medical literature. In Vol. VI. of our Transactions there is a paper of his on the "Frequency of the Localization of Phthisis Pulmonalis in the Upper Lobes." As he was versatile, enthusiastic, and unselfish, his participation in the fight against misrule in New York was active indeed. It will always be gratefully remembered. He was deeply interested in the efforts of the New York Academy of Medicine to abolish the pollution of the Croton water shed, and to secure national control of quarantine.

As death is busy causing losses, it is our responsibility to see that the ranks of the Association remain filled. There being, however, but few vacancies in our roll of one hundred, but few candidates will be presented to you for election. You recollect that in last year's meeting

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you declined to increase our membership, which is now limited to one hundred. The same proposition will be made again, to be voted upon next year. The class of men anxious to join, and capable of doing scientific work, is certainly growing. Now, it is true that the Association has been justly conservative, but conservatism is not narrow. As it was the pride of every one of us to be one of the hundred, it will, when we conclude to facilitate new admissions, be our pride and happiness to know that no increase of membership will ever include all the Americans willing and able to render actual scientific services to universal medicine.

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DEAR SIR: You have had the kindness of addressing me with regard to my opinion as to the qualifications and the practical achievements of women in *medicina practica*. If you are willing to be contented with a short, rough, rather unsystematic answer, I am wholly at your service. Besides, times seem to have advanced too far to allow of a lengthy analysis. For the woman question is no longer solved by men, no longer by women, but by economic developments of human society in the civilized countries. Unfortunately most questions have become broad questions. To us Americans who have labored these many decades—with at least some success—for the uplifting of the medical calling from the level of a working class to the dignity of a profession, it seems hardly logical for Germany,—where for almost forty years the medical profession is being lowered to the level of a trade by various official acts and government measures,—to employ all means preventing women, for no other reason than that of their sex, from following that trade. The problem, then, has a more serious aspect in your country than with us, otherwise I should have been tempted to say that the injustice restricting admittance to a certain trade to one sex only as a distinct class having the exclusive right thereto, produces a comical impression.

Much more comical, however—and all the more so to us who thirty years ago went through the same phase of the situation—appears that sentimentality which is now and then paraded in your German journals with an evident anxiety to be taken quite seriously, which would prohibit women from entering the medical profession in the interests of the women themselves. “They have not muscles like men, nor endurance, they are more delicate, they menstruate, they may bear children,” etc., as if every one

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of us practicing physicians were a trinity of Apollo, Hercules, and Methusalem. We find no ground for prohibiting the entrance into the medical profession of a consumptive, dwarfish, ill-formed, lame or sickly man, but a "femininity" must not be admitted, for her body is too weak and her soul is in danger. "Her brain is also smaller, her endurance for intellectual work is less, her epoch-making achievements in the field of science remain yet to be demonstrated." This is a reproach heard on all hands, so long as each one of us all, professors, privat-docents, or practicing physicians, is a Descartes or Leibnitz, has created the cellular pathology, has discovered the tubercle bacillus, and has developed the serum therapy.

However, please do not let us lose sight of the fact that what the women want for the time being is nothing but to become physicians, *i.e.*, to obtain the permission, and to be enabled to make use undisturbed of their—whether great or small—intellectual abilities and physical powers in the interest of those sick whose confidence they may gain, and to assure for themselves a more or less independent existence, just as is the case with every male practicing physician. If they achieve but little—*habeant sibi*—all the better for their male competitors.

Into the philosophy of the subject and into the sentimental or ethical sides of the question, I have no desire to enter. It is perhaps well that the tendencies of the times are becoming less sentimental. When they become less ethical it is very bad, but a couple of thousand women physicians will not alter the world's onward march. It is not the medical man nor any other single class that nowadays determines the business of the world, but the commercial interests and industrialism. Abominable individualism holds the sceptre and coarse egoism takes that place which should belong to the most enlightened altruism. And thus it comes to pass that in no civilized country is politics any longer in the hands of men of the highest culture, as seemed to be the case nearly fifty years ago, but in the power of the moneyed men, manufacturers, office-hunters, pushers, and men of affairs, without mentioning the influence of

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the church. Just look attentively at the make-up of the houses of representatives of all so-called civilized countries, and you will agree with me that as a matter of fact the intellectual and moral tone of the contemporary parliaments no longer corresponds to the average education of the people. It may be a very good thing to raise the mean level of popular education by the wholesale education of women, no matter in what direction, in order that our common future may be shaped to a more useful end.

But I beg your pardon for having wandered from the question. You wished to learn my experience with regard to the qualifications and practical achievements of women physicians. My justification for at all expressing an opinion on this subject rests on my personal acquaintance with many facts which here come under consideration. For more than forty-two years I have practiced in the largest American city. I am pretty familiar with the medical profession of the city and of the United States with which I had much to do both in a private and in an official capacity. Personally I had no difficulty in settling the woman question in accordance with the principle of the Declaration of Independence of July 4th, 1776, which recognizes no distinction as to color, religion, or sex. Moreover, as in this respect I have never been either an opponent nor a fanatical adherent, I have calmly watched the development of the question and only on rare occasions have I helped it along. One of these few exceptions was when in 1872 I admitted, without much ado and therefore without much opposition, the first woman member in the large Society of the County of New York.

The first medical school for women was founded in Philadelphia in 1810, a few years before my entrance into the medical profession, and after the effort of some women to gain admittance to the existing schools.

This school still exists. As professor of bacteriology a young lady was appointed a few years ago. This woman was so well known in Berlin circles that she was provided by some of the recognized eminent men with detailed and pressing letters of recommendation even to myself. This first school was followed by others, the founding

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of which was made necessary by the fact that women were denied entrance into the existing schools. As a matter of fact neither the students nor the medical profession took a friendly attitude towards the question of women physicians. The students in Boston and Philadelphia behaved in so ungentlemanly and brutal a manner that the women lost all desire further to seek their society, while the practicing physicians viewed with no friendly eyes the increase of women doctors, particularly such as threatened to become dangerous to their obstetrical practice. Just as is the case in your country, the concern of the physicians for the welfare of the women grew with the desire of the latter to become medical practitioners. It was pointed out to them that their modesty and their virtue would suffer violence, that the details of the medical studies were revolting, that they were too weak, too good, too noble, etc., etc. The fact is also emphasized that the male students and practitioners of medicine are almost as famous for their modesty, their soberness and general tameness, as the students of theology. Nothing, however, availed,—*vox feminæ, vox dei*,—and the worst of the matter was that the couple of women physicians of that period behaved decently, and apparently accomplished something. It is always a good recommendation to be a gentleman, or a lady, and we have not yet outgrown the habit of putting a high estimate on work. Thus it came to pass that already in 1869 some women were admitted to the Medical Library and Journal Association, and that we, the lords of creation, occasionally even had a paper read to us by one or another of them. In 1871 the Medical Society of the State of Pennsylvania permitted consultations with women physicians, and in 1872 the Society of the States of Kansas and Iowa—of course these were backwood States—even admitted a woman as a member. In New York admittance to the large societies: County Society, New York Academy, Pathological Society, Neurological Society, has been granted since 1872. This opportunity has not been seized upon to any considerable extent only in the first of these. Since that time there are but few societies, whether city or State (of the latter

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none at all) where membership is denied women for considerations of sex. Only occasionally were young women physicians admitted as assistants into medical institutions. The two who at different times were employed in the Mount Sinai have acquitted themselves well. In dispensaries a number of them have proved themselves useful, particularly in the divisions of the diseases of women and children. Here they work side by side with the men, and do not yield to the best of them in punctuality and application. Those hospitals and dispensaries which are conducted exclusively by women compare very well with the average of other institutions. The general impression gained by the public is perhaps also emphasized by the fact that the legislatures of New York and Pennsylvania—these are the only States about which I have information—have passed a law that for the female inmates of the insane asylums women assistant physicians must be assigned. As you have asked me about my personal opinion, I can inform you in parenthesis that during these last few days, when the question of filling the place of house physician in a children's hospital came up, I gave my decision in favor of a woman physician—*ceteris paribus*. In the women's medical colleges only a part of the teachers are of the male sex. Practical as well as theoretical subjects are in the hands of women. One of these schools in this city, the only one recognized by the medical profession, has the distinction that it requires of its matriculates a suitable preparatory education—which is more than nearly all the male schools do—and that it was one of the first in the country to extend its course over several years. You see, then, the women mean well.

We must also say a word of recognition for the scholars of this institution and for some women students in other good schools of other States. They enter upon the study of medicine with the view of making medical practice their life-work. In former years this was something contrary to usage and precedent. An enterprise so different from the usual pursuits of a woman's life was proof at once of character and courage. Medicine was her only and well-weighed choice. How many of the young men of the

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graduating classes of the German Gymnasias vacillate up to the very last day before they find themselves forced to hit upon a choice between the various professions by which they might make their living!

Many, many years ago, when the competition of women physicians was only in the perspective, the practitioners were in no frame of mind to be crowded out or curtailed by this prospect. Obstetrics is in this country everywhere in the hands of the practicing physicians. We have a few midwives in the European sense, but up to a short time ago they were subject to no supervision, and there are no institutions of any importance for their instruction. Therefore the opposition in the medical circles came from those men who believed themselves imperilled in their obstetrical practice. The extent of the danger did not, however, cover the ground. Women did not study medicine to become midwives, but to become doctors and to pursue a general practice, preferably, as is natural, among women and children. As a matter of fact, we have in this country a large number of male physicians of all nationalities who practice obstetrics exclusively, or nearly so. But I have heard of no woman physician who should limit her activities to this special line of practice. It is physicians they would be, and so far as I know, the overdriven craze for specialization, which narrows mind, morals, and views, has not yet taken possession of them. When this tendency of the invasion of women was recognized, the apprehensions were naturally not entirely allayed. They existed for many years, only gradually to disappear entirely from medical circles. How did this come about? Simply enough. We got used to look upon women as an integral part of the population, nothing more.

A certain portion of the population will enter the medical profession: it is always overcrowded. Places which are now taken by women would have been taken by other men, and the individual practitioner would have been just as badly off. I speak from experience when I tell you that when the male practitioner complains to me of competition, he for the last twelve years no longer thinks of the competition of women, but of the overcrowding of the

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profession in general. There is, therefore, nothing astonishing in the fact that the medical practitioner occasionally refers a female patient, either at her request or at his own initiative, to a woman colleague, or that he consults with her. Even in certain post-graduate schools (permanent institutions which have the same purposes as your "vacation courses") one formerly heard here, and in Chicago one even hears now, of women engaged as professors.

Few of the women physicians are married. We must, however, not forget that the greater number of them are still young, and their ranks may in time be thinned out. A small number are married. I have no great experience with their personal circumstances. Occasionally the *angustiae rerum* is such that it becomes necessary to get a living from practice. When a woman physician is blessed with children and is so situated that she must make a living, the household and the children have to be satisfied with hired help. Good heavens! The working class is always and forever suffering under a disadvantage. In the case where the husband is well-to-do, I consider it unjust and immoral for the married woman to engage in practical work, except in medical institutions and in service to the poor. You, Mr. Editor, I hope, share with me the view that every desire to sacrifice, all the talent, all the working powers of an entire woman are necessary for forming brave men out of little children. There are, however, not many such cases—fate has taken care that trees should not grow to the heavens.

In former times, moreover, I have often heard the reproach expressed against women physicians that they would not marry and have children. These reproaches, of course, were never made by those men who themselves proposed to marry the women in question, or to provide husbands for them, provided they were themselves acceptable. Unfortunately, there are still too many women in the world; the excess is always larger, statistically speaking, than the number of women physicians. The latter, had they not become doctors and practicing physicians, would surely have become great in some other way—and possibly not—

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for instance, salesladies, factory hands, aunties to the children of their more fortunate sisters, perhaps simply old gossips, in any case old maids; in many cases, with the familiar physical and mental type of the old spinsters. Unfortunately the picture is not exaggerated. I can only say from experience that the latter type is not common among the many women physicians whom I know or have seen. The characteristic *habitus* of the old spinster is not present in any of them. They look contented. With so many the matronly type is so striking that the few who do not exhibit it have surely never possessed it. In any case, being a physician has not proved injurious to the feminine nature. This is a matter of actual experience.

The position of women physicians in the medical circles of the city is a pleasant one in so far as differences of sex are not taken notice of. It is just as little shocking to see a woman come into a medical meeting and sit down on the first best chair as it would be in a street car. I do not know whether a young person feels awkward at first, it has never seemed so to me. She is as safe under the medical roof as an Englishwoman is under her flag—*civis Romanus*. Does a woman physician cast down or turn her eyes away at a ticklish sexual demonstration? I do not know; I have never watched for it, and no man with self-respect will do it. I have frequently seen a highly educated Austrian woman, a graduate from Switzerland, among thirty to fifty male, German-speaking colleagues, by whom she was gladly seen and highly respected. She treats medicine as a lady or a gentleman treats her or his particular pursuit.

The position of women physicians with the public is satisfactorily assured. For many years there was here the same opposition which originally held sway within the medical profession. It happened, however, that young ladies of "good," even "very good," families became medicine-struck. Thereupon the die was cast, and the Rubicon—not very wide at that—was crossed.

How many of the ladies engaged in the practice of medicine are financially well off I do not know. The city is too big to allow us easily to see through each other's pockets. But the general impression which I have gained

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about the worldly success of the women physicians is a satisfactory one. I believe that their average income is higher than that of the men.

Like the public, so is the community and the State. I have already mentioned that certain medical offices have by law been made obligatory in the interests of women physicians. Women, moreover, are frequently charged, or rather honored, with work of a public character. One lady, belonging to the most prominent social classes, the wife of a highly respected physician known also in Europe, who for many years has done good service in the matter of street cleaning, has just been elected to serve on the executive board of the municipal insane asylums.

Once in a while the question is raised whether women have done anything for medical science. And as they have created nothing new, why should they be made welcome in the medical profession? Both the question and the reproach are in bad taste. When women apply to the State for permission to study and practice medicine, they do not assert that they, each and all of them, are, or are going to become, a Haller, a Bichat, a Hunter, or a Virchow. I imagine that not all of us men practitioners and teachers (do I hear some one laugh?) could or would make such claims, and that many thousands of us are satisfied with whatever they may be good for and whatever comes their way. We studied and are practicing medicine with the idea of making a living and of each making himself useful in his own circle. Like men, so are also women. Their participation in the literature, and their independent work are from the economical and political points of view a different matter. Time will show how the women will make themselves useful in medicine beyond their daily practice. That they take enough interest may be proven, for instance, by the 145 papers which have appeared in the American journals, almost all of them in the large Eastern cities, during the years between 1872 and 1890.

The preceding remarks were not intended as an exhaustive study. Nor did you expect from me anything but an account of my experience and my own impressions. I have had ample opportunity during my forty-two years in practice, and the thirty-six years of regular activity as teacher,

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to observe people, men and women, both in and out of the medical profession, in a variety of private and official capacities. And I repeat again and again, never have I heard of any harm or inefficiency or impropriety, either as regards the women themselves who practice medicine, or with regard to the medical profession, which thus far consists of men, nor as regards the public. As I never was a fanatic adherent of the woman movement, nor ever maliciously opposed it, I have calmly looked on and watched conditions develop, and from knowledge thus obtained I conclude that what with us is an accomplished fact is in the process of formation with you also. I say this frankly, without knowing what your own opinion is in the matter.

It won't be long before you will have women doctors. If what I found not long ago in a journal be true, that the minister of education has reserved to himself the right to allow or prohibit admission in each particular case and to particular lectures—I am but a foreigner and allow myself no criticism—it is nevertheless the first step *qui coûte*. The next question for you to decide will be the important one whether women shall study in separate institutions or at the existing universities. It would be conceivable that one of the universities of the country, with all its laboratories and institutes, should be reserved for women. However, it is for you gradually to work out the problem of whether co-education would not suit you best. This question interested me in many ways. I will tell you confidentially where I stand in this respect. For many years I mentally rejected co-education. The question has never concerned me in a practical way. But I gladly admit that in the interests of uniform instruction and consequently in the interests of the public, as well as in the interests of the studying youth, I should now prefer co-education. Given equal requirements (graduation from college), I should expect from the presence of young women a stimulating and ennobling influence upon the male youth. They will not make so much noise, have fewer duels, be more gentlemanly, and will do better work.

Very respectfully yours,

A. JACOBI.

ADDRESS AT THE DEDICATION OF THE BENDER LABORATORY, ALBANY

THE earnest spirit exhibited in the arrangement of this celebration, the concourse of students, the participation of medical practitioners of this city and from beyond the boundary lines of Albany, the gathering of gentlemen not directly connected with our profession, the presence of a stranger upon whom you have conferred the honor of an invitation to address you, and the interest shown in your achievement both by the public and the press—all this seems to demonstrate that this occasion is felt by all to be one of more than temporary or local importance. This is as it should be, for of all the institutions of learning and research none can be more worthy of the sympathy of all classes than a laboratory of hygiene.

Hygiene is that part of medical science and art which treats of the causes of prevention of disease. We cannot conceive of a subject of vaster importance and more incompatible with ignorance. It ought to be understood by every man to whom is entrusted the care of the individual or of the community, for it comprehends, as you will understand if you will but run your eyes over the index of any text-book on that subject, a great many vital topics. To it belong the normal and abnormal conditions of air, water, foods, and soil; the removal of sewage, the construction and sanitation of dwellings, hospitals, schools, manufactories, camps, arsenals and prisons; and the subject of baths and bathing, of clothing and exercise. The theory of disease germs and of contagion and infection, with the history of epidemic diseases and the disposal of the dead, prevention and treatment by antiseptics, disinfectants and deodorizers, and protection by quarantine, and finally, vital statistics form intrinsic constituents of hygiene.

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You have noticed that the themes I enumerated are, so to speak, no mere primary elements of medical science or art. Indeed, they require the application of a number of branches which must be taught and learned before the difficult matter of hygiene can be fully grasped. It is mainly physics, chemistry, physiology, pathology, and bacteriology which form the foundation of the structure, and ought to be thoroughly assimilated by the student's mind before he may expect to master hygiene. It is, therefore, impossible to believe that the undergraduate will, in the second or third year of his medical curriculum, succeed in acquiring a knowledge of it any more than he can expect to become a diagnostician without anatomy and physiology, and without patients. The addition of a fourth year to the course of medical study, such as your college has established, is therefore indispensable. To it mostly belongs the instruction in hygiene which, based as it is upon previous studies extending over three years, must be twofold.

Didactic lectures and the study of books will convey much information, but without practical laboratory work, neither teacher nor student will succeed any better than the chemist without personal experimentation, the anatomist without dissecting, or the swimmer without water. Now, the significance of hygiene for the physician, the layman and the community at large is such as to preclude the possibility of a college with a two or three years course being able to supply a modern public with modern physicians. The profession has waked up to this knowledge some time ago; indeed, it has been the profession that was the principal agitator in behalf of progress. Your city of Albany has been a lively battlefield in the war of evolution. Those under whose leadership we have been struggling for the improvement of medical instruction and the extension of legal requirements these two dozen years will admit that the profession of the Empire State had now and then to overcome serious obstacles coming even from some of the colleges. It is both with gratification and gratitude, however, that I remember the active and incessant aid lent to the cause of progress by the Albany Med-

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ical College. To-day both the profession and the colleges appear to work for the same ends, namely, the better preparation of matriculants, more years of instruction, longer courses, more branches and more teachers, every one of whom should be a thorough specialist—not necessarily in practice, but in the branch he means to teach—and besides, practical work in laboratories.

These are demands not always made either in America or in Europe. The briefest possible retrospect of the condition of medical knowledge and practice, and of teaching methods, and a comparison of periods not so very remote indeed should as well emancipate us from desponding pessimism as justify some optimistic hope for the future. Of our present status I do not speak, for to intellectual enterprise there is no greater drawback than self-sufficiency and the beatitude of self-congratulation. No medical period can ever afford to boast of its own perfection.

Fifty years before I started to study medicine, say about 1800, medical science and art furnished many illustrious names. There were Hunter, Haller, Bichat, Peter Frank. But teaching and practicing were comparatively on a low level. Most medical schools or medical faculties of universities were limited in anatomical material, practical instruction or clinical teaching. Often the same person would teach botany, obstetrics and theory and practice, or anatomy and materia medica. Aye, now and then there was one who would write books on philology and on medicine; still there was an advance, in spite of the mysticism in which the medicine of Germany was, it seemed, hopelessly immersed; for the empirical tendency and cool observation of the Anglo-Saxons never wavered, and the French kept the flag of scientific anatomy, physiology and nosology unfurled in the first half of the century.

Fifty years ago, when I was considerably younger than to-day, and began the study of medicine on which I continue to be engaged at the present time, Virchow had just commenced his war against ontology, and laid the foundation of cellular pathology. Still, the differential diagno-

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sis of what has been called Bright's disease had begun to be elaborated but twenty years previously. The stethoscope was not twenty years old, and my old professor at Bonn, Friedrich Nasse, then three score and ten years old, was one of the few who appreciated and enthusiastically taught on German soil this French innovation. In Goettingen I had an illustrious teacher who was at the same time professor of anatomy and dissected with us, and of operative surgery and director of the surgical clinic. In all Germany outside of Vienna, which at that time was part of Germany, there were but two places where pathological anatomy and histology were taught, and but two men who gave such instruction, namely, Virchow in Würzburg, and Frerichs in Goettingen. That is why I travelled four hundred miles to the latter place. In a New York institution I was, some thirty or thirty-five years ago, connected with a surgical gentleman of knowledge, enterprise, skill and fame, whose proudest possession was a large, splendid, gorgeous, velvet gown, which covered him all over to his feet, and made a tremendous impression on the spectators while he was operating on the dead or the living; he attended to both, sometimes in the same hour and on the same table in the amphitheatre. Now and then he would perform the same operation, first on the cadaver and immediately afterward on a patient. It was not very hygienic, but at that time it was strictly legitimate. A hospital and a dissecting room were under the same roof. That was but little more than thirty years ago, and few of us knew or taught better. A short twenty-five years ago we had in connection with wounds no higher ambition than to see pus. If there was none we might have, and too often had, erysipelas or gangrene. Pus was always looked for and welcomed if it was but "*bonum et laudabile*." When I was a student there was no laboratory anywhere but the chemical. It was at that time that Pettenkofer began in private his influential studies on topics connected with hygiene, but it took decades before he succeeded, in 1878, in obtaining an official laboratory. Still, from him and his time date the appreciation of the theoretical and practical importance of hygiene

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as a science. I may state the gradual effects of his personal and local efforts right here. It was from that period that the sanitation of Munich became possible. It resulted in the extermination of typhoid fever which had decimated both the home population and the strangers. It spread health and vigor over old and young, while embarrassing the mourning goods stores and the undertakers.

In recalling these historical facts and personal reminiscences, let me not forget, however, that within that time great achievements were accomplished even without the modern methods of work and study. Although there were no laboratories, and no high-power microscopes, no Abbe condensers and no oil immersions, there was what no great metropolitan teacher nor obscure country practitioner should be without—educated brains, powers of observation and application, and common sense. Within that very time, a century ago, Jenner had introduced vaccination, and one-third of a century ago the United States improved hospital arrangements. It is our pride as a nation, and always should be, to remember that America has been foremost in accomplishing the greatest practical progress almost without any schooling. I can do no better for you than to copy, in order to make clear what I mean to say, literally from our great pathfinder and master, Rudolf Virchow. In his "Progress of Military Medicine," an oration delivered on August 2nd, 1874, he says: "The French army lost in the Crimean war 33 per cent. of its men, namely, 95,615. Of this number 10,240 were killed on the battlefields, and about as many died of their wounds in the hospitals. More than 75,000 men died of infectious diseases. In the American Civil War 97,000 died of their wounds and 194,000 perished of infectious and other diseases. What a vast amount of pain and misery! What an ocean of blood and tears, and besides what a number of errors, mistakes and prejudices! It is not necessary to now enumerate the long list of blunders and sins. They are so well known as to serve in the future as warning examples. Let me say here that it was not misfortune alone that showed where the cause of evil was and then provided aid. If the French learned little or nothing in

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the Crimea, and the Americans so much in their civil war as to create a new era in military medicine, the explanation is not to be sought for in the immensity of misfortune and misery undergone by the Americans, for they did not suffer any more than the French did in the Crimea. The explanation is in the critical and thoroughly scientific spirit, the clear perception, the sound and practical common sense which penetrated gradually every part of the American military administration, and which with the astounding coöperation of the entire nation accomplished more humane results than any great war ever produced before. Whoever studies the copious publications of the medical staff of the American army must again and again be astonished at the vast experience collected in them. Absolute accuracy of details, the most painstaking statistics, acquaintance with all branches of medical learning, and a comprehensive style are united in them for the purpose of collecting and preserving in the interests of the present and future generations the new knowledge so dearly bought."

The practical results of the civil war were the pavilion system, the increase of air space, the isolation of contagious diseases, the improvement of heating and ventilation, and thereby a vast saving of lives. The lessons were not lost; were learned and adopted all over the globe, and made the American name honored and blessed all over the world. Understand, young men, for the present and the future, that this is the only practical and useful sort of interference with European nations which is worthy of the American people and consistent with the principles of our government.

While almost instinctively we succeeded in finding some way of escape from deadly diseases, the Europeans advanced slowly and surely to the evolvment of what first appeared theoretical science only, but proved of vast practical import. These two, as a rule, go hand in hand. It is true science that has its own reward in satisfying the mind, but I know of no instance in the history of mental development but demonstrates the fact that the most theoretical, the most abstruse intellectual result will always

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turn out to be serviceable to mankind. Of this there is no more beneficent instance than the methods by which the sources of disease have been fathomed. By the study and knowledge of their causes the greatest improvements have been made in the prevention and treatment of epidemic diseases. There was a time when they were unexplained in their suddenness and considered unavoidable. Niobe and her nine children slain by Apollo and Diana are always sad realities. There have been millions like them, though they alone live forever in marble and prove that the highest degree of æsthetic and artistic achievement may well accompany dense ignorance. That may occur in nations as it does in individuals. In heathen antiquity and Christian mediævalism disease and death are deemed punishments. There is no way of combating them; mute submission only is demanded. Nothing is indicated but prayers, offerings of beast or man, and pilgrimages. There was another time when nothing bad could happen except through some evil influence. Somebody was at fault when a cow or a child died. There was witchcraft or the evil eye. When there was a general dying somebody must be killed for it—dissenting protestants by the hundreds, Jews by the ten thousands.

There was a later period when it was neither gods who sent their swift arrows nor Jews who poisoned the wells; when it was well known that epidemics would follow in the path of wars and thus depopulate the large cities; that they would spread from man to man and thus decimate the people. The latter belief was even exaggerated when it was found advisable to class syphilis also among those diseases which could be transmitted without physical contact, for nothing is more pleasing to human self-love than to escape, not so much guilt as the appearance of guilt. Thus it was felt that in the dissemination of contagious diseases there must be a something the nature of which was unknown or unknowable. The "genius epidemicus," the epidemic tendency, was the pass-word which allowed etiology to go unchallenged. By others, though they admitted not to know the nature of the contagion, the latter was believed to originate in the body, at least in

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some instances, spontaneously. Typhoid fever, tuberculosis, dysentery were thus explained. By many, spontaneous generation of the cause of the disease was assumed for the generality of cases; by others, for the first instances of the epidemic only, but no matter whether the real cause was hidden there were the facts of contagion and of awful mortality; and the clear heads of the eighteenth century—Sydenham in England, Boerhaave in Holland, Van Swieten in Holland and Austria, Peter Frank in Italy and Austria—knew better than to cross their arms in such nihilistic contemplation, as reigned supreme through a protracted period of this very century of science and humanitarianism. Many of the measures established at present on solid knowledge and improved by experimental research were inaugurated by them. Their reasoning was as follows: Man is the carrier of contagion; therefore, when falling sick with a contagious disease he must be isolated. A contagium will not cling to everybody indiscriminately. Thus the amount of individual vulnerability appears to be larger or smaller, but no matter how various the degrees, there is *some* vulnerability probably in everybody. Therefore, try to diminish it by saturating the system with the poison when the epidemic is mildest. Thus they inoculated variola and risked a slight danger rather than allow men to die of a greater. And thirdly, no matter whether the nature of the contagion is clearly known, it is advisable to destroy or diminish its poison. As early as the period of black death in the fourteenth century people would keep wood and tar fires burning in the streets. Was it the instinctive belief in the disinfectant action of heat, of tar, and of creasote?

Afterwards fumigations with vinegar, with chlorine, nitrous acid, were resorted to. Patients and utensils had to submit to disinfection as best they could, and goods or tools were either burned or temporarily buried.

The organic origin of disease (which was to be proven after manifold labors) was first suspected in antiquity when imagination gathered all the visible and alleged invisible insects under the sinister command of the supernatural patron, the devil. Amongst the Romans, Varro

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suggested the presence, like that of big insects, of invisible minute beings hovering over swamps which he thought might cause fevers. Paracelsus when speaking of the seed of diseases may have believed in a similar hypothesis.

A clergyman, the Jesuit Anastasius Kircher, 1671, was the first, however, to claim contagion to be the result of organic influences, and Leuwenhock, being in possession of a better instrument made by himself, was the first to discover real bacteria.¹

Progress, however, was slow. It took a century until O. F. Müller, 1786, was able to describe and draw some of them. The names given by him are still in use. Bory de St. Vincent in 1824, Ehrenberg in 1838, Dujardin in 1841, added a great deal to our knowledge. In my own time Perty, in 1852, discovered the changes which take place in bacteria when developed under varying circumstances, and in 1853 Ferdinand Cohn classified, rather pedantically, it is true, the whole number of microbes then known.

Kircher's theory of the organic origin of disease was adopted by Lancisi, Reaumur and Linné. Its firmest believers were Marcus Antonius Plenciz whose book of 1762, and Pringle whose researches on infectious diseases and disinfectants furnish the best presentation of the subject in the last century. Their views, as Ferdinand Hueppe aptly remarks, were, however, not generally held because it was not so much the *cause* of the disease as the disease itself that was considered to be a living parasite; for it is from that time that such names date as lupus and cancer, which have outlived their justifiable term of existence. Besides, positive knowledge based on descriptive observation was defective to such an extent that even Malpighi,

¹ J. Ferdinand Hueppe, *Naturwissens chaftliche Einführung in die Bakteriologie*, 1896. Friedrich Loeffler, *über die Fortschritte in der Bekämpfung der Infektions Krankheiten in den letzten 25 Jahren*, 1896. Max Gruber, *Pasteur's Lebenswerk*, etc., 1896. Charcot, Bouchard, Brissaud *Traité de Médecine*, Vol. 1, 1891. G. M. Sternberg, *A Manual of Bacteriology*, 1892. Victor C. Vaughan and Frederick G. Novy, *Ptomains, Leucomains, Toxins and Antitoxins*, 3d Ed., 1896.

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Morgagni, Bichat, and up to 1874 Virchow, gave their attention exclusively to the pathological anatomy of organs and tissues.

At that time, however, the question of the nature of putrefaction engaged the attention of many minds. Decomposition was proved to be organic in yeast by Astier in 1813; the so-called "bleeding hosts" were demonstrated by Sette in 1816 to owe their discoloration to bacteria. In 1837 Cagniard Latour studied the yeast deposits which he found during alcoholic fermentation. He proved them to be organic, and presumed they were the *cause* of fermentation. In the same year Schwann became more positive of this, and moreover found that extract of nux vomica did not stop fermentation, but that arsenic did. This is why he took it to be of vegetable nature. The same results were obtained by Turpin in 1838. Fuchs in 1841, Remack in the same year, and in 1843 Mitscherlich referred all fermentation to living microbes. The two last named authors were the first to find *two different microbes in two different forms of fermentation*. Helmholtz also participated in these researches without, however, excelling here as he did in almost everything else he undertook. It was only in 1857, however, that Pasteur could prove undeniably, in spite of Hiller's and others' remonstrations, that *all putrefaction and fermentation were attributable to microbes*, and that *each different fermentation had its own specific organic cause*.

Long before researches on the origin of the diseases of animals, Provost found in 1807, and deBary after him, the causes of diseases of plants to be microbic. Bassi and Balsamo discovered in 1835 the microbe of the "muscadine" disease of the silkworm, and Audouin the spores which enable the parasite to live through the winter. Schoenlein found the achorion to be the cause of tinea, Simon the acarus of the itch. It was shortly before this time that Henle, in 1840, formulated his conviction that infectious and contagious diseases were the result of living causes. His main reasons were these, that in such cases the morbid matter was evidently increasing from the moment of invasion. Organisms only have that faculty.

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Another reason was this, that the quantity of the invading material was out of proportion to the effects gradually obtained by it. Further, that there was a stage of incubation which was not required in poisoning by a definite dose of a simple chemical substance, and lastly, that the poison which is introduced in a very small quantity must increase before the disease can be expected to make its appearance.

Henle's theory suggested by the facts hitherto known, and supported by the published reports of Franz Schulze in 1836, and Schwann in 1837, was confirmed by Schroeder and von Dusch, 1854 and '61, by von der Brock, 1857, and by Pasteur. Pasteur having established as a sound fact the principle, *omne vivum ex vivo*—that is, nothing that is alive can possibly have come from what is dead—and thereby annihilated the doctrine of spontaneous generation, and having further found that fermentation and putrefaction took place through external microbic influences only, Joseph Lister concluded that if wounds became infected through such living external influences only the latter should be kept away from them before they could reach them, or be destroyed. That was in 1867.

There was great activity in the study of bacteria from 1866 to 1876. Klebs found microbes in pyonephritis in 1866, Rindfleisch in pyæmia in 1856; soon after Recklinghausen and Waldeyer in metastatic abscesses, Klebs in gunshot wounds in 1872, others found them in septicæmia, erysipelas, hospital gangrene, puerperal fever, diphtheria, and finally, 1873, Obermeier in relapsing fever. In this way much valuable material was collected, but unfortunately but little sifted. It so happened that in similar conditions many varieties were found to occur simultaneously, by several in abscesses, also in diphtheria, in cholera, in variola. Pasteur found a number of bacteria in putrid material, but in most cases no positive decision was at that time arrived at as to the relationship of specific microbes or poisons to specific diseases. Besides, there was never such a scramble for notoriety as in those times. Dilettanti in journalism were as numerous as pickpockets at a fair or tramps after a battle. The medical weeklies and monthlies of that time teemed with new discoveries

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and new bacteria. Bacteria found in the dead body were proclaimed to be the cause of death, accidental finds the origin of a special disease; and hundreds of essays appeared at that time which proved nothing but carelessness in experiment or observation. Thus it could happen that even all the results obtained by one of the most active and ingenious experimenters, Hallier, could be proven by de-Bary to be worthless, because no protection had been procured against the accidental admixture of miscellaneous bacteria. At that time it took a great deal of mental equilibrium not to be swamped by the flood of new microbes. Indeed, in spite of the results already attained and appreciated, the profusion of immature publications was enough to create doubts and prejudices in the minds of many clinicians. It was at that time, in 1880, when finishing my treatise on diphtheria that I availed myself of that occasion to express my own feelings about the hasty and immature conclusions arrived at by the crowd of microscope fiends and leaned in the explanation of the diphtheritic process rather to a chemical poison than to the direct influence of a parasite. Riper experience, all built up on laboratory work, has since taught us that in diphtheria as well as, with but few exceptions, in every infectious disease in whose development microbes are known to be concerned, it is a chemical product of the microbe only which penetrates into the circulation and destroys life. It is fortunate indeed that it should be so, for chemical poisons are more easily counteracted than living microbes circulating in the blood. The latter condition is present in anthrax. That is why Pasteur's inoculation of thousands of flocks of sheep with less virulent anthrax has not proved an unmitigated success. Deaths have taken place after such inoculations as they did when in the last century smallpox was inoculated to protect against smallpox. In southern Russia in such attempts at conveying protection thousands of sheep were destroyed. When speaking of this accident it was Haffkin, of whom I shall have more to say, who, shuddering, exclaimed, "If that happened to man!"

After many mistakes, amongst which one of the most

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prominent is the alleged isolation of Bergmann's "sepsin," Panum proved that *septic poisons could be derived from microbes*, after Coze and Feltz in 1866, and Burdon Sanderson, and in 1872 Davaine had succeeded in perpetuating infectious processes by persistent inoculations of the same microbes from animal to animal. As early as 1868 glanders had been produced by vaccinating its pus, and it was proved by the effects of immense dilution that the infecting material must necessarily be of organic nature. Still, the nature and manner of propagation of the microbe was not recognized. Finally in 1876 Koch discovered that the great vitality of the bacilli of anthrax, themselves very perishable, owed their vitality to the formation of spores.

Thus far the parasitic theory appeared to be rather firmly established, but still, as many believed in the excessive variability of bacteria, and attributed their many different forms to transmutation of a single original form, they were often believed to be not the *cause* but the *accompaniment* of the infectious process. All this happened in spite of the fact that Pasteur had differentiated the bacteria of wine and of beer fermentation, of anthrax, of sarcina, of amylobacter, and Obermeyer's specific spirillum of relapsing fever was known since he paid his self-sacrificing zeal with his own life. Another proof of the essential differences of bacteria was accidentally found by Schroeter, who noticed differences in the color of his cultures, but a scientific differentiation became possible only when C. Weigert and later on Ehrich taught the systematic staining of bacteria by means of basic anilin dyes. With this method and better microscopes, and immersion, and the use of Abbe's condenser, Koch made rapid strides. In 1877 he published his treatise on the methods of research, and in 1878 the etiology of the infection of wounds. About the same time Pasteur, 1877, after having proved in 1863 that normal blood was free of germs, demonstrated that the bacillus of anthrax would grow not only in the circulating blood, but also in blood outside the body and on other nutrients. Thus prepared, he and his pupils discovered a number of characteristic microbes: that of malignant œdema in 1877, the staphylococcus pyogenes in '78,

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that of the sputum-septicæmia, identical with the pneumococcus of Fraenkel, in '80, of chicken cholera in '89, of hog cholera in '82. Lister, Buchner, and Koch further improved the methods of examination until in 1882 the latter succeeded in demonstrating his bacillus of tuberculosis before the Physiological Society of Berlin. At this time it was conclusively proven that the microbes had each their peculiar etiological significance, that in fact it was a *single specific microbe which caused a single specific infection or contagious disease.*

Let me here try to correct what I believe to be a mistake and to give rise to confusion. The terms contagion and infection are too often used promiscuously, though they are by no means synonymous. The dissemination of mycotic diseases takes place in different ways. There are those which cannot be communicated from person to person, but spread only by the microbic cause invading the individual. To this class belong malarial fevers produced by plasmodia. Malaria is not contagious; just so in all probability cerebro-spinal meningitis. There are, secondly, those which are not communicable from person to person but through external carriers only, such as soil, water, food, air, clothing and utensils. To that class belong yellow fever and Asiatic cholera. They are infectious. There are, finally, those which may be transmitted directly from a person, or indirectly through carriers. To this class belong scarlet fever, measles, diphtheria, variola, influenza, erysipelas and varicella, perhaps also whooping cough. They are contagious and infectious. As its cause has not been sufficiently proven to be microbic, I do not add syphilis. On no account, therefore, ought the terms contagion and infection be taken as synonymous.

The belief of Naegeli that the multiplicity of bacteria originated in a single or a few changeable varieties was proven to be erroneous partly by direct observation and partly by the results of cultures undertaken under varying circumstances. It can be demonstrated that the infectiousness of bacteria may be increased or lowered. That is what Buchner found in 1880 in regard to the bacillus of anthrax. The main progress in the following years

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was made by Pasteur either single handed or in coöperation with his pupils. In 1880 he found accidentally that the bacillus of chicken cholera was less virulent when the cultures were exposed to air and got cool. Still, the hens infected with them became ill. After they recovered he infected them with thoroughly virulent germs, and, lo and behold! they were immune. *From that time dates all our modern protective and curative therapeutics of infectious diseases.* Pasteur then experimented with anthrax. A few of his results can be stated in the following brief sentences. The bacillus of anthrax did not develop in the blood of the living chicken. That is, the latter were immune against anthrax. But the bacilli *did* develop in the blood of chickens outside their bodies. The conclusion was that the presence of bacilli in the animal body was active or inactive, not *through its own properties, but only so far as the animal tissues permit of its influence.* The disease, therefore, is not established by the presence of the bacillus, but is the composite of the symptoms caused by the battle of the invader with the living cell.

Pasteur also found that the infected chick remained immune when retaining its own high temperature. When it was cooled by being immersed in water it fell sick, but recovered when again warmed. The conclusion is that the development and growth and injuriousness of bacilli, or some of them, depend on the *temperature of the medium* in which they are. He further found that the bacillus of anthrax grew in sterile urine when being alone in the fluid, but not when other bacilli were exposed together with it. This observation was confirmed by further experiments. When these bacilli were injected with other bacilli into an animal, the bacilli of anthrax did not thrive, and the animal remained well and alive. The discoveries followed one another in quick succession. Septic phlegmonous suppurative processes of all kinds were found to be caused by different bacilli. On the other hand, the same *microbe would cause different affections in different animals.* The bacillus of chicken cholera, for instance, produced general sepsis in the chicken, but a local abscess only in the guinea pig.

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The virulence of the bacillus or its poison can be lowered in many ways; by high temperatures, partial desiccation, dilution by chemicals, or by culture of the original in different animals. Pasteur's experiments with the bacillus of anthrax were very numerous and efficacious. He produced cultures of lowered infectiousness and vaccinated sheep. It is true many died of the infection, but a great many were rendered immune, and the mortality from anthrax was very much reduced. Experiments made with the view of lowering the virulence of bacilli in other animals were also successful. That of hog erysipelas was thus changed when passing through the rabbit, and the poison of rabies, believed by Pasteur—though even he could not isolate it—to be the product of an organism, after unsatisfactory experiments with monkeys, was weakened by its passage through the same animal, viz., the rabbit. The indomitable man was successively engaged in finding new hypotheses based on well-known facts, and in experiments which were to prove or disprove the value of his hypotheses. In regard to rabies his reasoning was as follows: The long duration of its incubation proves the slow progress of the poison in the direction of the nerve centers, for it is of symptoms of the nerve centers that the patient infected by a mad dog finally dies. Thus the time between the infection and the affection of the nerve center should be utilized by antitoxic injections. The poison must be intercepted. It is well known that the spinal cord of the rabbit is gradually and in proportion to the duration of its presence in the organ, changed by injection with fully virulent rabic poison, that the different degrees of morbid changes produced in its tissue yield a material which is employed for injection into the patient who has been, or is believed to have been, infected. The attacks on this method, or rather its effects, are many, but it appears that the good done by it far outweighs its dangers or ill results. And one fact must never be forgotten: it is but little more than a decade since the method has first been employed. It has been the forerunner of other discoveries of similar import and of more and extensive utility. Thus it appears that the future therapy

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of infectious and contagious diseases will be built upon the foundation laid by the work performed in Pasteur's and other laboratories.

As far as Asiatic cholera is concerned, the discovery of the comma bacillus appears to have finally settled the question of its cause. The bacillus, however, does not enter the circulation, but destroys life by secreting a deadly poison. So does that of yellow fever; so does rabies, each with its own poison bred by its own specific bacillus. In these diseases it is not the weakened bacillus that can be expected to act as an antidote, but the lowered strength of the chemical poison. Thus it was that Ferran's therapeutical experiments with living cultures in 1885 were of doubtful importance. When cholera again appeared in 1890, Haffkin, of Russia, working in Pasteur's laboratory, found that cholera baccilli when cultured lose part of their activity. Imbued as he was with Pasteur's principles the light flashed upon him. The lowered activity of the culture bacilli could be expected to be utilized as the healing agent after having been tried on somebody. But animals are immune, so he made himself the object of experiment, and—he did not die. Within two years afterwards, in the East Indies, he made 70,000 injections on 42,179 human beings in 98 different localities. No accident marred his operations, though pain followed each of them for four or five days. In order to control his experiments he always vaccinated a part of the population only. What were the results of his laborious and self-sacrificing labors? In Calcutta the morbidity of those vaccinated fell to 1-19 or 1-24 compared with former experience; the mortality fell to 1-17 or 1-24. If in the near future—in Berlin they are experimenting at this moment on the action of dead cultures which appear to immunize—the methods will be improved, and the East Indian and Arabian pilgrims be vaccinated before they start for Mecca, "Death, where is thy sting! Grave, where is thy victory!"

As so much has been written on the subject of diphtheria, a few words may suffice on that form of this contagious and infectious disease which is caused by, or as some still say, accompanied with the Klebs-Loeffler bacillus.

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The bacillus locates on the mucous membrane of the nasopharynx, sometimes on wounds. On the mucous membrane it produces a disease only when the surface is sore and thereby amenable to invasion. It does not enter the circulation, but produces a poison which is rapidly absorbed. When this chemical poison is injected into an animal in slowly increasing doses, which should be large enough to make sick but not to destroy, an antidote to the original disease is produced in the serum of that animal. This is the healing serum of Behring, which has succeeded in greatly reducing the mortality of diphtheria, and may be further proved to cause temporary immunity when injected into those who are well but constantly exposed. This almost fabulous result is the result exclusively of laboratory work. The success accomplished thus far speaks well for the future. It does not require an unbounded enthusiasm to believe that the results will be still more favorable in this dread disease which destroys the infants and children in every country by the ten thousands, and to trust that further study and experimental labors may find similar methods for the subjugation of other contagious and infectious diseases. The question of rabbit, sheep or horse rights ought not to be raised. We kill them and eat them to keep alive. In the laboratory we utilize them for the purpose of finding means to keep alive our people young and old, while but few, if any, are destroyed in the process. The problem will be to decide whether the future is to belong to the rabbit and sheep or to mankind.

All those results could not have been attained without experimentation on animals. The saving of animal and of human lives accomplished by its teaching is simply immense. Let us consider.

The investigation of the action of remedies cannot be complete without it. Anthrax has lost its terror amongst the French peasantry since Pasteur discovered how to reduce the mortality of the sheep. One of the most fearful calamities of former times, the terror of every woman who is to become a mother—childbed fever—has been reduced to the very lowest figure wherever the teaching

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of animal experimentation has been heeded. Hydrophobia, fatal in every case, is now accessible to successful treatment. Myxœdema, an incurable disease a few years ago, has become curable in almost all instances, even cretinism in many. Tuberculosis may be, and is in part, confined within certain limits. The prevention of cholera is no longer a dream. The mortality of diphtheria has been reduced to one-half of what it was. The success of surgical operations under the influence of Listerism is simply marvellous; antiseptis and aseptis have been evolved out of the laborious studies of medical experts.

All these blessings, the enumeration of which has not exhausted the list, are the immediate results of experimentation on animals. To deny it is either ignorance or malevolence—mostly the former. In our times when nobody who is mortal can be acquainted with everything worth knowing, it is no reproach to be ignorant of topics known only to those who make them their special study. There is, however, another class of people with whom there is no reasoning. As long as the law of the land allows them to be abroad, you can only rely on the better judgment of the majority. This majority will not defile the name of “Christianity” to cover moral obtuseness, and that of “science” to shield intellectual hebetude. Those who refuse sleep to the sick unto death in order that they may pray, and a remedy to those in pain and dying of an acute disease—I know whereof I speak—they all are antivivisectionists. But there are also thousands of antivivisectionists amongst the educated men and women, and the legislators of the land, all of them philanthropically inclined, who because they cannot, ought not to judge of these things. All of them, when taken sick, confide their lives to the judgment of the physician, ask no question and offer no criticism; but all of them, as long as their interest is theoretical only, express, perhaps even have, positive opinions dictated by their hearts, and allow their easily won sympathies to run away with their signatures under an antivivisection proclamation. What is it that makes the best talents of the medical profession; those who are most bent upon the elevation of the standard

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of science and the improvement of mankind; the great men amongst practitioners; the teachers of physiology, biology, and hygiene, adherents to animal experimentation? What is it, if not its indispensability?

You say that hundreds of M. D.'s add their signatures to the applications for the abolition of animal experimentation. Still, you do not say that you know how easy it is to gather names, such as they are, on every sheet of paper which is not a check or a promise to pay. Unfortunately it is too easy; and if the public does not know, we in the profession know that there are M. D.'s and M. D.'s. There are those who make a living out of their profession—a trade out of a vocation—without ever having the clouds removed from their brains, or from their hearts, or from their consciences either, by solid knowledge of any kind, or by sympathy or the sense of responsibility. Do you expect that the hundred thousand practitioners—not every M. D. is a physician—of the United States are of equal knowledge, morality, public spirit and self-sacrifice? In other spheres you do not count names, you weigh them. When you require an exalted opinion based on the laws of the land or of humanity, you select an expert. In great economic and political questions you ask statesmen, but not the wirepulling ward politician. And in a question of science, of physiology and hygiene, you want us to believe that you abide by the name of any M. D. in some distant corner whose name you have never heard, never will hear! But there is a famous man on the other side of the Atlantic. Famous! Yes, for did he not cut more abdomens than any living man? He is an apostle of antivivisectionism! I do not stand here, however, to criticize methods, of operating or of making out statistics. What I always do when I want to take the measure of a medical man is to consult the opinion of the best men in science and in morals of his country. His weight is taken.

Who believes, or makes believe, that there is no sympathy, love for the living, or regard for life in those whose profession is more than any other an arduous labor of love? Or who, not a medical man, will decide what means must be selected to increase knowledge, and as every

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knowledge has its practical results, to benefit mankind? Is there any antivivisectionist who would not on principle employ antitoxin if his child be stricken with diphtheria? Or a woman who would refuse preventive measures due to animal experimentation exclusively, in order to avoid her own death or that of the newly-born waif? It is no use to call antivivisectionists hard names. There is but one thing to do, namely, to appeal to their common sense, their duty to husband, wife, children. *Thus it has come to pass that the English restrictive laws have been partly rescinded, and English medicine is thereby restored to the privileges of legitimate science. No prohibition of any kind ever worked well.*

One of the objections to animal experimentation which we hear constantly from the lips of antivivisectionists is that the results of such procedures are unsatisfactory in as much as the struggles and the pain render the conclusions unequal and doubtful. That may be true to a certain extent, but as I have proved by facts, is not a barrier to the extension of our knowledge. To a certain extent it *is* true, however, and some experiments cannot be made without giving pain. But the light of science shines on animal as it does on man. Anæsthesia, which itself has not been developed without animal experimentation—and is it not a wondrous achievement?—has been a blessing to both man and animal. Under its influence there is no pain, no struggling, and less uncertainty as to the results of observation. Thus more humanity and more reliability go hand in hand. Nobody rejoices more intensely at that than the experimenter, for he can observe better, study better, and he need not himself suffer by giving pain to the helpless. Medical science and art were born out of the heart of man. The physical distress of man created love and helpfulness. It is not in the nature of things that the followers and apostles of medicine should be otherwise than thoughtful and sympathizing. This much I, who have been a close observer and a coworker of the medical profession of the State of New York these forty-three years, can say that I never knew of a medical man, practitioner or teacher, who was morally lowered by his practice or his scientific

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work. On the contrary, I find the old practitioner getting more cautious and sympathetic, and the pure scientist more considerate and circumspect from year to year. We are not angels, nor pretend to be in this life; but we do not forget, any more than any other heedful member of human and humane society, that "Though I speak with the tongues of men and of angels, and have not charity, I am become as sounding brass or a tinkling cymbal. And though I have the gift of prophecy and understand all mysteries, and all knowledge, and though I have all faith so that I can remove mountains, and have not charity, I am nothing."

It is to me a constant source of painful surprise to find men and women ever ready to attribute bad, selfish and cruel motives to others. Do they think the great experimenters had an easy life? If there is an occupation that strains every physical, moral and intellectual labor, it is that of the close student of nature. Nor is the study of nature unattended with danger. When a soldier dies in the very moment that he is bent upon inflicting death upon his adversary he may be rewarded with admiring songs and a lasting monument. Every physician, every scientist is constantly on his field of battle, and he may die on it. Obermeier was not the only one who, when studying the spirillum of relapsing fever by night and day, sacrificed his life. For him there is no visible monument. Only a few months ago the magazines reported the death of a young experimenter who was killed by his object of study.

Nor is the story I heard Dr. Playfair tell a few days ago on the occasion of the Boston semi-centennial celebration of anæsthesia less instructive. He was the co-operator of Simpson, of Edinburgh, during and after the time of the discovery of chloroform, and busily engaged in finding other anæsthetics. Some day Simpson called and asked for news. He was told of a new compound that certainly was a powerful anæsthetic, and insisted on trying it immediately upon himself. Playfair refused, but proposed to try it again on some rabbits. Simpson having consented, called the following day. Having been informed that some time ago the rabbits were alive, he insisted upon an im-

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mediate experiment upon himself, and hardly allowed the time required to inspect the rabbits. They were brought up—dead.

Without deliberating long after hearing the tale, I decided in my mind that the death of the rabbits was not, after all, such a calamity as that of Simpson would have proved. I will also admit that, as I said before, I was ever of the opinion that the present and the future ought rather to belong to man, and not to the same degree to guinea pigs, rabbits and horses. If man, and sympathetic woman also, are permitted to hunt and kill animals because they are good to eat—man is not meant to be a cabbage eater exclusively—it is still more pardonable to experiment on them as humanely as possible for the purposes both of serving the commercial interests of the people and to preserve the health and save the lives of human beings exposed to fatal devastation by vegetable microbes.

There is, however, an admission which should be made to the antivivisectionists and to public opinion, no matter if it be the dictate of the heart only. There ought to be some restriction to animal experimentation. To permit every individual, inquisitive student or private person to operate indiscriminately on animals for the sake of personal curiosity, I personally do not approve of it. Whatever experimentation is not intended or able to elevate the human mind, is liable to impair it. Flimsiness and frivolousness must not claim the mantle of sacred science. I am not ready to admit that the sweet will or the thoughtless meddling of anybody who calls himself a medical student should be encouraged to do work will not lead to serious scientific conclusions. To experiment on the living with results leading to the improvement of science, and to benefit the art of preventing and healing diseases, takes thorough knowledge and high aims. Nor am I prepared to approve of indiscriminate lecture-room demonstrations on living animals before college classes of medical students and still less in public schools. They belong to laboratories, such as the intelligent generosity of a fellow-citizen of yours has established for you. Here is all the mechanical and scientific skill, here are the facilities and pre-

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paratory studies required for the consummation of our aims and ends. Here it is that such advanced students and graduates who have the skill and knowledge and ambition demanded of future teachers of science, and benefactors of mankind, may be instructed. The interests of human and humane science are amply guarded by some such restrictions as will confine animal experimentation to institutions specially calculated for such purposes. To them it may be confined. In them, however, it *should be protected*. And instead of being hampered by the intrusion of uninformed and jealous watchmen, as has been proposed, it should be treated with admiration and reverence. What the church and sanctuary are to the religious, what the hall of a library is to the student of history and science, that is the laboratory to the explorer of the mysteries of life, and to the teacher of those secrets the revelation of which is indispensable for the protection of mankind, and the enhancement of its felicity.

The solemnity of the occasion which affords me an opportunity to speak to you this evening, and the indulgence exhibited to me, encourage me to speak in connection with this laboratory of hygiene of a subject intimately connected with it. The Bender Laboratory of Hygiene as planned and established will have two objects, at least for the nearest future. I understand it is meant to be the place where systematic efforts will be made to increase, by new and original research, the stock of such knowledge as will prevent, wherever it will reach, the origin and dissemination of contagious and infectious diseases. Its further destination in connection with the Medical College and its hospital is to furnish the means of an exact diagnosis of the cases entrusted to the painstaking care of the hospital physicians. From that standpoint of philosophy and humanity these two ends, it is true, belong together. The first is to benefit all humanity. The second includes the scientific labors calculated for the individual sick. It seems to me, however, that you will soon learn that the interests of science as a whole and those of the patients in your wards can be better served by separating them. Indeed, the laboratory of hygiene ought

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to labor exclusively in the service of the scientific and social community; the hospital in that of the individual man, woman, and child. Laboratories like this new abode of science are but a few dozen years old. Within that short period many of the aspects and aims, not only of theory, but of practice have been changed. A modern hospital is as different from that but twenty-five years old as a comfortable, clean, ventilated, spacious, cozy and healthy house of yours differs from the lodge of the pioneer. He lived in it, but its barrenness and exposure are not the consummation of human civilization and cultured existence. Modern science means to make hospitals modern institutions and succeeds in so doing. Whatever contributes to the comfort and welfare of the patient—ample space, light and food, all the resources of science—society places at the disposal of its wards. In this way hospitals have become a school, not only for the medical man, but for the public also. There is particularly one demand which ought to be fulfilled in every hospital.

There ought to be, there must be, laboratory facilities in and directly connected with every modern hospital. It requires no demonstration that rational treatment is not possible without a correct and minute diagnosis. Blood, sputum, urine, fæces, stomach contents, tumors, eruptions, require a careful examination. There is scarcely a case nowadays that does not require some one examination of the kind. Nor is it enough in blood diseases, for instance, to count cells, compare red cells and leucocytes. These very leucocytes assume different characters and undergo the most various changes. The indistinct class of fevers which tempt so much to call them malaria, perhaps because the mellifluous and foreign sounding word is relished by the people, require for diagnosis examination for plasmodium, or bacterium coli commune or streptococcus. The cases in which neither was found, but an encephalitis explained all the symptoms, are not rare within my own experience.

The examination for tubercle bacilli facilitates the diagnosis of the true nature of peritonitis which may depend on appendicitis, tuberculosis, carcinoma, or the invasion of the bacterium coli commune, pneumococcus, or streptococ-

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cus. The very diarrhœa of the child is far from being always catarrhal or the reflex of external exposure and irritation. It is mostly the result of the bacterium lactogenes, or coli commune, or a hay bacillus. The very selection of the milk food is a matter of grave responsibility which often can be shouldered only by a person equipped for microscopical and bacteriological examination. The latter is by no means so simple as it was thought to be when knowledge was less and faith greater. It is not more than a dozen years ago that a gentleman who admired his universal standing as a microscopist told me that he disdained the use of stains, for what he could not see without dyeing and understand, did not exist. Now he is staining.

The labor connected with every single hospital case has greatly increased with the accumulation of new knowledge. Even a layman uninstructed in medical matters, appreciates that difficulties grow with results, results with difficulties. So the best achievements of a hospital require from year to year more facilities, because they demand more work. Without the former, the latter remains sterile. The faithful blending of practical labor and scientific research finds no better illustration than a thoroughly modern hospital with a clinical laboratory attached. What I mean to suggest, in your case, is that in no distant future the hospital work ought to be performed not only in the sick wards, but also in a clinical laboratory immediately connected with them. All scientific work, however, unconnected with a special case, unless its interest and importance be of unusual magnitude, ought to be delegated to this new institution.

The necessity of equipping a hospital with all that is required by the laws of hygiene and the demands of scientific diagnosis concerns not alone the individual patient or the attending physicians. It reaches further. By facilitating research, it adds to common knowledge and improves the chances of not only the patient, but of the future patients and doctors. Indeed, every such hospital is a school for the medical profession at large and at the same time a benefit to the community. Are there short-

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sighted objections? O, yes! Our fathers did without all this. The hospital was considered good as it was only ten or twenty years ago. Our old doctors were good doctors and a blessing to the community, and learned men. I say *Amen*. It is true there were no better men than Marsh, and Vanderpool, and Thomas Hun. Certainly their names are always mentioned when the best are recalled. But as they were learned, and conscientious, and eager and as good citizens as they were great doctors, they would stand by us as they often did, in our fights for better schools, better hospitals, more and better institutions, and more facilities to learn and to teach. They, one and all, would look about in the advanced and advancing state of science and practice, for a new hospital for the sake both of the community and the college which is to furnish medical advisers to the families of the country, and the future teachers. The example given by your sympathizing, enlightened, and public-spirited fellow citizen, whose name I need not mention as it is in every heart and upon every lip, should be, will be, an incentive to others whose hearts are taught by their brains, whose brains are warmed by their hearts to give you and the city a well-equipped, competent new hospital.

ADDRESS AT A DINNER OF THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

WASHINGTON makes us feel proud and makes us think. A century ago there was here a howling wilderness; to-day, it is the blooming garden-like capital of a mighty people whose power and intelligence are surpassed only by its belief in its own superiority. In this city are assembled in congress men of different states, climates, parties, stations in life, religions,—let us add, characters and intelligences. What is it that they have in common? Responsibility to their constituents, interdependence upon one another, coöperation for a common purpose, love of the country in its parts and as a political and social organism, its free institutions, and its democratic citizenship. Do not ask whether I know that it is so. What I do know is that it should be so; what I hope for is that it will be so; and that the individualism of modern society will surely change in the course of social evolution into fraternity and solidarity, rivalry into mutual aid, and the politician into the statesman.

Here I am addressing another congress. Its history is well known. In 1860 the Surgical Association was founded. The surgeons were the first to plant the flag of their speciality firmly upon a national platform. It is said of them that since that time they have obtained the earth and want still more, like Alexander, who was told by his father to go out conquering, for Macedonia was too small. But they did leave room for thirteen more associations like theirs. The first to follow their fertilizing example were the ophthalmologists in 1854, and the otologists in 1866. As is proper, they were the first to open their eyes and ears, for people who are to open the eyes and ears of other people must have their own opened first. These were the

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first national scientific medical societies with specialistic tendencies. In the formation of their states they differed from the crude origin of municipal communities or political states, in that they were national, American.

Twelve others, based on equal wants and well-understood necessity of combining efforts, exchanging experience, and coöperation for common aims, developed until 1888, when this congress was formed. Our political union was established when there were thirteen States. This, our congress, is the unification of thirteen national associations. That number must no longer meet with fear or derision amongst Americans. After the union had taken place, as is the custom in well-regulated families with what amongst medical authorities is called a "good moral character," where children follow the wedding, the pediatricists joined, and no man will say they were still-born or exhibited asphyxia, or that their voice was feeble.

There are now fourteen national associations concentrated in this Congress. They can hardly be said to have an embryological development. They are the results of spontaneous generation, which required the holy spirit of the stimulus given by a few original and thoughtful men to start into vigorous life, not as homunculi concocted in a retort, but like Minervæ emanating from the brow of eternal Zeus.

Now what have we, the fellows of special associations, in common? We are men coming from private sick-beds, hospital practices, from public offices, from physiological, chemical, histological, biological, bacteriological laboratories, from dissecting rooms. As the different stations in life, industries, and occupations combine into municipal or State organizations, so the specialties combine into a composite congress for scientific purposes only, without political fore- or after-thought, and without the temptations of uninterrupted festivities, excursions, entertainments, receptions, and all the other seducing Loreleis of social intercourse, which have proved and will prove the sure disease germs and causes of death of many large national and international gatherings.

I shall not commit the offence of daring to entertain you

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with the history and rationale of specialties,—their foundations, blessings, and shortcomings. I think we all claim to be scientific medical men first, and specialists afterward. There are even those amongst us who have the hazardous and dangerous courage of disclaiming special powers. Patients have left my office with expressions of disgust when I meekly suggested that I was not a specialist and did not know if I should get there. There is, however, a station to which I did get. I got here to be a member of several associations and of the congress. I got here to learn that wherever there is a specialist in the States with the spirit of science in him, he is most anxious to join. Strictly speaking, there is no science of ophthalmology, otology, dermatology, or neurology—science is too comprehensive, too universal, to be caught in the meshes of a specialistic net. Thus it is that we assemble here from time to time as a Congress, and fasten the links at which we are individually hammering away, the links of the endless chain which owes its future indestructibility and eternal power to the constant exertions of all. The links are the specialties, the chain is the medicine of the future.

Perhaps the organization of affairs is not altogether yet what it should be or may become. I have been told that in Congress years the special organizations, or some of them, or some members of them, do not find sufficient time for reading and listening to and discussing their papers. If there be any who do not want to miss an opportunity to listen to their own voices, I sympathize with them; maybe I have the same feeling. I was delighted, I was gloating with pleasure, when I began to address you. It is the President's fault when I am not telling the truth. It was choking pleasure, not stage fright, that took my appetite away to-night.

But seriously, the organization of the work of the association is in their own hands—that of the Congress and its general meetings in those of their representatives on the Executive Committee. There is not one member of the Congress who is not entitled to express his opinion and give his advice. It must be possible to find a method to entertain and instruct all of us in the general meetings,

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even the public included, with less demand on our time than has been required hitherto. If the Congress were in a position to listen once every three years to orations as scholarly and practical, as philosophical and wise as that which I heard this afternoon from the eloquent lips of an otologist, it would—within a short number of hours—be instructed and edified.

So, if there be complaints, express them, correct them. *This is certain:* While we are sharing the organization of all national and international congresses in this, that their and our work is partly sectional, partly general—ours is vastly superior in that no time is wasted, no scientific opportunity lost on allotria. In that respect we are and shall be, an example to all other medical congresses. If not before, they will learn when dying of their dissipations and incongruous mixtures of occupations and pleasures how it was that our Congress could live and thrive.

Long live the American Congress of American Physicians and Surgeons!

ADDRESS AT A DINNER GIVEN TO ANDREW D. WHITE

IF I were to come to Berlin and if my name were Andrew D. White—pardon me for the presumption of this comparison—and if I were asked: “Who are you, and where do you hail from?” I would briefly say about as follows: “I come from America and I am the envoy of the great republic. My country is a century old. In this short span of time it has made over many hundreds of thousands of square miles; it has developed all the virtues and faults of your civilization. It has worked unremittingly, has had many cares, has never rested; for ‘he only deserves liberty and life who daily has to conquer both.’ Standing on the shoulders of past centuries, my country has become the equal of Europe. It has practiced the arts of peace like other semi-barbarians, carried on great wars like other semi-civilized nations, exercised its powers of assimilation on Anglo-Saxons, Germans, Latins, Slavs, Orientals, Whites and Blacks, without upsetting its stomach; and by the aid of natural hygiene—and disregarding the advice of poor doctors—it has managed to keep its health. We have

‘Opened space to many millions

Who, if not always safe, live free and active,’

and in this way have grown from three million colonists to seventy million citizens and sovereigns.

“I grant we may not be as great as is the belief we have in ourselves. But this is an attribute we share with other nations.

“Our original strength rested in agriculture. Even now, when interests have largely shifted, the Department of Agriculture in our government stands as proof—not that we have become a nation of agrarians—but that we have not

forgotten the important meaning of our origin. Commerce, domestic and foreign—from which latter our own shipping has been excluded through a mistaken policy—has expanded gigantically, and our competition is felt by our friends, the enemy, all over the globe. Pioneers were not wanting to lay the foundation of political tactics and morals, between the age of Washington and Jefferson and that of Lincoln, Sumner, Cleveland and Schurz. Side by side with them stand great jurists like the German Lieber, and historians like Sparks, Bancroft, Prescott, Motley, Parkman and Draper, who are never missing where the people know how to make history on a great scale. And in this, civilians and soldiers outdid one another. Washington, Greene, Steuben, Lee, Sherman, Grant, surpass the glory of others, however, in that they did not carry the sword to the end of their lives, but preferred on their return from war to reach out their hands for civic honors. The uniform was not their ultimate aim, just as little as it was with the other officers and soldiers whose breasts were not decorated with any emblems over their brave and self-sacrificing hearts. The leaders and soldiers of the subterranean road, who undermined slavery, may rightly be compared to Schill's and Lützow's corps; and the glorious memory of John Brown to that of Thomas Muenzer and Florian Geyer. All died for a beloved cause, one on the gallows, the others by the sword. To our heroes fell the more envied lot, however, for, taken up by the awakening national sentiment their work was carried on to a success that was not vouchsafed to those who, almost four hundred years ago, could not break the way for freedom. Indeed, no greater end was ever accomplished by a nation than by ours when it abolished slavery. In this deed were combined all that a high moral sense and practical tendencies could hope to accomplish. And with all this, science did not suffer. Hundreds, thousands of schools, colleges, academies, universities stand as proof. Agassiz and Henry—whose monument stands in Smith's Park—the archeologists Schoolcraft and Catlin; down to that youthful scientist of whom the celebrated French anthropologist Topinard says that with Boas American anthropology entered

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into a new phase; celebrated physicians like Benjamin Rush, one of the signers of the Declaration of Independence; or the Pennsylvania Dutchman, Dr. Samuel Gross, whose monument was unveiled but two weeks ago in the National Capital; scientific practitioners, or practical scientists, like Edison, who may best be compared with Siemens—they all are evidence of the intellect that lives in the sons of our country.

“Neither are we poor in literature. In prose and verse we have Irving, Whittier, Holmes, Dana, Lowell, Poe, Bryant, Longfellow, Hawthorne, Bayard Taylor; our storytellers are Cooper, Bret Harte, Howells, and Mark Twain, of whom fame reports that many of his jokes have been understood by Englishmen in less than fifteen minutes’ time. In philosophy only does there seem to exist a paucity. Our Ralph Waldo Emerson also succeeds occasionally in being unintelligible, but he never has reached the heights of Schelling, for instance, in this respect, to whom—notwithstanding his predecessor Kant—it must be principally ascribed that German science, during the first forty years of this century, groped around in the thickest of London fogs; or of Hegel, whose German no native understands, and of whose inscrutable depth we all were therefore so proud until the year 1848. We were probably on the wrong track in America when we looked upon Herbert Spencer as one of us; but we must admit that in his almost twenty volumes, covering every possible theoretical and practical knowledge, neither a Columbus nor a Röntgen could discover a sentence that would not be understood by any cultured person.

“In the application of science to education we have not been idle in America. Mann and Parker are worthy successors of Pestalozzi and Froebel. The latter has not met with greater success anywhere in the world than he has among the cultured Americans.

“Our greatest boast, however, in America, is the general desire for culture. Nowhere is there more reading done, light as well as serious, than there is with us; even the university students study. Journals and magazines are printed by the hundred thousands; books have dozens of

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editions. Our book stores are the largest and most magnificent in the world; public libraries are found in towns one side of which still adjoins the primeval forests or the prairie, and our publishers build themselves palaces—which, however, cannot be often said of the authors.

“ But that which we Americans esteem still higher is civic virtue and generosity. You in Europe read, and read with a certain neighborly satisfaction, of the political corruption in our midst, of bossism, of crimes, of public theft. But let me tell you, gentlemen, that since the time when a Pennsylvanian of German origin—whose name was Zenger and who died as recently as 1746—compelled the English authorities and courts to grant freedom of the press, the press has also taken the freedom to put on things very thick. Thus all our unpleasant experiences and occurrences are served to you red hot, and by no means minimized.

“ But the unremitting and unrequited labor performed by individuals, by thousands of individuals, toward the improvement of our political conditions, our government, schools, all public institutions, prisons, stores, etc.—this labor should be announced with a thousand tongues and should be heard by a million ears. But whether announced or not, this labor is self-understood, and whosoever has eyes, and wants to see, will see it.

“ More than that! Is there a land on earth in which thousands and millions flow from the pockets of private individuals, for every kind of public benefaction, as with us? Millions for schools and academies, for libraries and hospitals, institutions and enterprises of any and every description!

“ With us it is the private individual, rarely an association of private parties, who takes the place of the European governments. Rockefeller, Vanderbilt, Sloane, Morgan, Sandford, Seth Low, etc., not only have money, they also give it liberally. Bennett opens up Africa, Morris Jesup uncovers the buried history of the shores of the Pacific Ocean. The future will become a present in which generous and beneficial gifts will no longer be called royal, but republican. Even foreigners become acclimatized, not

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only physically and socially, but also morally. Narrowness of every description is overcome and a broad sense of generosity takes its place. With the ability to acquire property, the American learns the art and virtue of giving."

This is about what I would say were my name Andrew White. The one whose name is Andrew White will put it much better. But I am not speaking for him; I am speaking for myself and to you, all of whom have the joy and satisfaction of taking part in the cultural progress of this, our present home. It is said of us with some justice that in the upbuilding of what will be the future America, no small part falls to us because we have, by honest effort in every branch of physical and intellectual work, brought our German inheritance to the fore and amalgamated it with what we found here.

And what have we found here? That also is German in part. Pennsylvania, the Mohawk, the great West, are indebted to German energy and to German characteristics for much of their development. The spirit of German literature and of German manhood permeates almost every acquisition of America. Among the knights of German intellect many are worthy of immortality. I mention but one among these many,—Ernst Krackowizer, the man of honor, with clearest brain and tenderest heart, the Chevalier without fear or reproach, Aristotle and Aristides in one, the one man in whom in my estimation I have always placed side by side with Carl Schurz.

But no one knows all this better than Mr. White, who has himself studied and accomplished so much. Educated in the school of all civilized nations, he has met with nothing human that is foreign to him; he has enlarged the sum of all that is worth knowing in history, morals and philosophy. His books bear the stamp not only of erudition, but also of individuality and of independent and fruitful research. No stranger to statesmanship, a genuine scientist, a historian with human tendencies, a cosmopolitan with fine insight, a national American with a world-wide horizon, such is the man who by a fortunate decision of our Executive is sent as America's representative to our former fatherland.

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"Ihn braucht ihr nicht befragen
Noch Wissens Sorge tragen,
Woher er kam der Fahrt,
Und was ihm Nam' und Art."

"You do not need to question
Or anxious be to know
The nature of this man
Or what land gave him birth."

—*Richard Wagner.*

ORATION AT THE SEMI-CENTENNIAL OF NEW YORK ACADEMY OF MEDICINE

Mr. President and Fellows of the New York Academy of Medicine, Ladies and Gentlemen: One century has expanded this nation of three millions into its present population of seventy. Its democratic constitution attracted Europeans weary of class differences, prejudices, and sufferings. Liberty and equality, inscribed on its flag, opened opportunity to intelligence and diligence, roused legitimate rivalry, and developed inventive genius and independence of character. While inventive genius, coupled with industry, led to prosperity, independence of character found or fought its way out of political errors or actual calamities, sometimes without, other times with, the guidance of clear-headed, unselfish, determined, and consistent leaders. But a young nation in its infancy has, properly speaking, no preconceived designs. It is like a product of nature, unfolding spontaneously. In evolving its organic life it rises to self-consciousness, and possibly to the development of an ideal.

It was on the same democratic basis that one-half of a century ago the New York Academy of Medicine was founded. But it differed from the national commonwealth in this, that it required no time to exhibit concerted aims or definite plans. Nor was it without an ideal from its beginning. It was well understood that our Academy was to differ materially from what is called an academy of medicine in Europe. A European academy is always a government institution, in some way or other supported by centralized national means. Its members comprise the intellectual and sometimes the social heads of the profession only. Young faces are but seldom seen among its fellows. Membership is, as a rule, obtained after a long

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life of successful scientific pursuits only. Their labors and efforts are not intended for practical aims or objects, but they become beneficent by the action of that logical force which ordains that there is no scientific result, no truth ever so abstruse, but will finally terminate in some tangible application. Though all this be true, the limitation and exclusiveness of membership results in a sort of aristocratic estrangement from the masses of the profession, and still more from the community at large.

The New York Academy of Medicine has a broader basis. The high and lowly, the old and young, the mature and the youthfully ambitious, though they represented the most different and various types, combined for the same purposes.

According to a circular issued years ago, in the possession of many, the Academy is not connected with any school or college. It is self-supporting, and carried on in the interest of the whole profession. There are no fees or emoluments of a private or individual nature. It is a democratic community, with equal duties and rights. It is not subsidized by the State or municipal corporation. Its aims are the elevation of the profession to a higher scientific standard for increased public usefulness. We claim that these aims concern the public as much as they do the profession. Increased scientific attainments on the part of the medical men of the country secure to the people great advantages and more effective service. Here it is that the interests of the nation and of the profession meet. Aye, I shall prove to you that the immediate interests of the whole community have for many years been uppermost in the creed and in the deeds of the Academy. Indeed there is abundance of evidence to demonstrate that the Academy deserves the general interest and sympathy exhibited to-night by so many distinguished not only in society but in all the professions, and in literature and science; aye, by the Chief Magistrate of the nation.

The history of the New York Academy of Medicine as a scientific institution is contemporaneous with that of modern medicine as created by Virchow and the German

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school which rapidly rose and broadened into scientific cosmopolitanism. In this wonderful evolution the Academy has freely participated. It was fully prepared for it by its ancestry. That ancestry was Anglo-Saxon medicine, which, since Sydenham, never swerved for any length of time nor suffered from philosophical theories built on clouds, nor from the chaos of mysticism which reigned supreme in a part of the European continent during the first half of this century. The American medical profession, like its Anglo-Saxon ancestry, was penetrated by the spirit of intelligent scrutiny. The best of the one hundred and eighty-four founders of the Academy developed it, the plainer men shared it. The fifty years of its existence have furnished wonderful proof of the facile adaptation of Anglo-Saxon clinical empiricism to the equally solid results of modern pathology, histology, and bacteriology.

The very first paper printed in 1847 for the Academy was a historical sketch, by Pliny Earle, of the institutions for the insane in the United States of America. Much later, in 1861, Parigot read his paper on moral insanity in relation to criminal acts. The interest in that all-important subject, so replete with dangers both to the actual or alleged criminal and to human society, has never died out in the Academy, until it could sustain a few years ago the movement to transfer our insane to State care, with which the name of Louisa Lee Schuyler will forever be indelibly connected. The report of a committee upon the comparative value of milk formed from the slops of distilleries and other food, in 1848, was followed by one on solidified milk, in 1854, and another one on city milk, in 1859. William H. Van Buren's and Gurdon Buck's papers on tracheotomy in croup, and Van Buren's on hip-joint amputation, were read in 1850. Valentine Mott's (the first to operate for aneurism of the innominata) remarks on the importance of anæsthesia from chloroform date from 1848; his case of aneurism and ligature of the left subclavian artery from 1851. Not long after C. E. Isaacs communicated his original work on the structure

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and physiology of the kidney, 1856; and John C. Dalton his memorable researches on the anatomy of the placenta in 1858.

Some time previously the accessibility of the larynx and bronchial tubes was first proven in the Academy by Horace Green—that was more than forty years ago. The cholera epidemics of previous times were the subjects of papers, thoroughly enjoyable to-day, by John W. Francis. The diphtheria discussion of January, 1860, was an incentive to observation and study all over the States and beyond. Gurdon Buck invented his and our present method of treating femoral fractures, in 1861. J. Marion Sims, whose statue adorns Bryant Park, benefited mankind by his silver sutures, by improved and by new operations, and by many papers and discussions. John Watson wrote for the Academy his learned history of medical men in ancient times, in 1856. On the floor of the Academy J. T. Leaming, after P. Camman had facilitated diagnosis by the double stethoscope, still in use, taught his brilliant theories of the functions of the pleura and of the respiratory murmurs.

Not long after 1863, Louis Elsberg instructed the profession in the topical medication of the larynx and neighboring organs under sight. John C. Dalton spoke on "Vivisection, What it Is, and What it Has Accomplished," in 1866; and the Academy published Robert T. Edes' prize essay, 1869, on the physiology and pathology of the sympathetic or ganglionic nervous system; also a report of William C. Roberts on the causes of death and disease in the metropolis, 1868. There were also notable discussions on cholera, on chronic metritis, on ventilation, and on sanitary police in 1866, and the paper in 1867, by A. C. Post, on the curative effects of blood letting. There were contributions by Willard Parker, Alonzo Clark, Austin Flint, and a host of others, whose names will not be forgotten, though they be not mentioned here. For it cannot be my intention to review all the Academy has accomplished during its lifetime. What I have told you refers to those whose faces and voices are known to our memories only. Indeed, while I was glancing over

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the sacred list of the one hundred and eighty-four founders, my eye was arrested by at least forty names of men who by original investigations and contributions have deserved well of the science and art of medicine.

As to those still living, a single allusion must suffice. One of the later great results of academic work was the memorable discussion on intubation of the larynx in croup, on June 2, 1887. It followed the discoverer's long-continued labors and his paper on "Intubation versus Tracheotomy," and carried the renown and influence of American ingenuity all over the globe. Let me also mention the debates of last year on the diphtheria antitoxin, which have contributed much to the study and dissemination of the employment of that beneficent antidote.

Such are the method and line of work by which this American institution has exhibited its power, enlarged its sphere of influence, and rivalled the countries of old Europe. Such is the kind of competition as is bid a hearty welcome all over the world. That is the only kind of interference with and combination against Europe which, without collision, but with co-operation, is worthy of the great American people. There is your reciprocity without a treaty, indeed not only reciprocity of mutual giving and taking, but the proof of intellectual solidarity and fraternity of civilized mankind.

The distinctive feature, however, of the New York Academy of Medicine, as a peculiarly American institution, is not its merely scientific work. This it has in common with similar organizations in monarchical countries. Its characteristic superiority consists in this, that it is composed of citizens. The American is, or ought to be, the "*zoön politikon*," the political creature or Aristotle, a co-operative cell in the organism of society. From that point of view let me glance over the fields on which you will find the members of this association in full activity; let me indicate what they are doing for you individually as practitioners; for you as a community as sanitarians, to the utter neglect of self-interest; let me also show the relation of the Academy to its own members and to other scientific bodies. Finally let me consider what it and you

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combined may be capable of achieving for the future of medicine and of mankind.

As practitioners, the members of the profession, academicians and others, have amply satisfied the reasonable expectations of the sick in the community. In former times almost every man, the most illustrious surgeon of the day not excepted, was a general practitioner. Specialists were not so numerous as they are to-day; indeed, there existed but few. These were men of ripe general experience, who would confine their work to a special organ or line of practice. When medical science broadened out and its progress depended on thoroughly specialistic study and research, the big old tree divided up into branches and branchlets; and in the practice of medicine the number of specialists, both mature and immature, justifiable or otherwise, increased almost incredibly. Time will be demanded to correct the mistakes and incongruities of overgrowth. Meanwhile, I am glad to be able to assure you that general practitioners still exist, and also that many specialists, known or unknown as the case may be, have not ceased to be doctors. You know them well and intimately. Your doctor is summoned night or day, by your servant, or your telegram, or telephone. You order, there he is. He is expected to aid you with therapeutical and other means—*therapos* means servant; and to cure—the very word means care. If ever there is a class of persons who deserve to be decorated with the device "*Ich dien*," "I serve," it is your doctor. He must not know, he does not know, the difference between night and day. With doleful jealousy he might hear of the efforts of philosophers, philanthropists, statesmen, and even of politicians, in favor of an eight-hour or ten-hour day. He is expected and willing to work indefinitely to lighten somebody's burden, like sun, or moon, or stars, that know of no rest. If anybody, your doctor is not the lily in the field that does not spin.

The same doctor goes a few streets to a hospital or to a dispensary. There he serves the poor, or the alleged poor. One of the hundreds of necessary and unnecessary institutions of the kind with which different grades of

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exigency, or philanthropy, or officiousness, or greed, or the wants of a teaching institution, have supplied the city claims his service. He meets the poor and also those who don the clothing of their servants to appear poor, sometimes those who leave their carriage and footman around the corner. He must not complain. He has heard of the woman in the Gospel who, before she applied to the Master Healer, is said to have "suffered many things from the physicians"; and concludes that the time has now come when the physician is to suffer from the many. Thus he aids, though ever so unwillingly, in robbing himself and his professional brethren, and in demoralizing and pauperizing a goodly part of the community. That is another unwelcome outgrowth of modern science and philanthropy, to correct which time and thought, and the co-operation of the profession and the public are urgently demanded.

Thus he works on and on. It is but a few weeks ago that an old practitioner told me of his life. It was all work and never so much as a vacation. Exhausted he was at night, tired in the morning. He lived on the stimulants of duty performed and on the intellectual and moral interest he took in his work, complaining only that he could not do it to his own satisfaction. Perhaps some of you remember having gazed at a statue in Munich. It represents a youth climbing upward, passing disdainfully the golden calf to attain what he evidently believes to be a crown of laurel in the hands of the goddess. What he finally snatches is a crown of thorns. Still he climbs, maybe to reach the stars, to which Ralph Waldo Emerson bids us hitch our wagons. In spite of failures, I say to my young friends, hitch your wagon to the stars. Not everybody falls like Icarus, and the horizon enlarges from the heights. This your horizon, let it be vast; unless it be so, both the morals and the science and art of medicine will suffer. It is from that point of view also that I exhort my friends, either pure scientists or practitioners, never to forget that there is no antagonism between the two classes. The time is past, and partly through the efforts of your Academy, when the pure

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scientist looked upon practice as inferior, and the practitioner on pure science as beyond the pale and unpractical. Helmholtz, than whom this century has produced no more intense worker in pure science, proclaimed that mere knowledge is not the aim of man; that you may dignify it in two ways only, either by applying or by enlarging it. Knowledge without its application in the service of mankind, is like a library without readers, a museum without visitors, a symphony without hearers. Apply what you know and daily learn in the community's service. Do not forget that there is no power more worth possessing and inestimable than life and health. That truth is certainly in the minds of the American public, misguided though it be when it feels like paying two hundred million dollars, annually, for proprietary drugs. Nor should you be discouraged by what Pliny said and others so credulously accept: "Say you are a physician, and you will be believed. Detract from your neighbor and you will be considered superior." Mind what you may have read over the gate of a Swiss hospital, "*Res sacra miser.*" So your community, when in danger of health or life, is "*res sacra*" to you.

What has the Academy done for its members? As a previous practice of three years in the city is required of a candidate, and the scrutiny of the committee on admission is always painstaking and fearless, the average standing and proficiency of the fellows is high and their moral tone elevated. The committee on ethics of former decades has, therefore, been abolished together with the abrogation of the official code. No authoritative body of rules is required or recognized in place of the unwritten law of gentlemen. Alleged cases of transgression are relegated to the decision of the council, but none was required for years. In the Academy of Medicine there are no professional politics. It is considered neutral ground, and the differences of schools, cliques, and combinations are supposed to be left behind when a fellow passes the entrance gate. Still, we are not all angels. That secret will come out some day, and may as well be whispered in public. That is why questions beyond the domain of the

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Academy are, however, forced in sometimes. That is to be deplored. Battlefields there are as many in New York City as in the Virginia Wilderness, or about Lake George or ancient Rome; but Rome had its temples of Vesta and Peace. Let the profession of New York remember and revere the Academy as the one temple of safety, impartiality, and neutrality.

To none has the Academy been of more service than to the younger members. To become fellows after a fair examination of their claims to admission is in itself an honor and improves their standing. Besides, all of the eleven sections have been in working order these twelve years. That means that eleven times as many fellows found a direct encouragement for work, both in private and in public. In the section meetings, the future officers of the Academy and teachers of the profession find a new incentive to labor and research, and are always certain of an appreciative audience.

Our relations to the public at large and to the city and State have frequently been the subject of discussion. You may have been told that we demand special class legislation. If that were true, we, democratic American citizens, should be on the level of German students before they were deprived of their clannish jurisdiction, or of the Prussian military officer, whose moral is based on his sword, and sense of justice on the prerogatives of his degenerate nobility. In a few words, the public may learn the attempts on the part of the profession to secure a so-called special legislation. These twenty years we have been fighting in Albany for a preliminary education of matriculants, also for State examinations, as a condition upon which alone the license to practise should be awarded. We, the Academy in conjunction with the rest of the profession, have worked to increase the duration and the number of college courses. The profession, particularly as it is represented in the Medical Society of the State of New York, has secured laws against quackery, and the Medical Society of the County of New York has undertaken to extinguish it in this city. This committee sacrifices its time, and the society its own money, to

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combat frauds, quacks, and diploma mills. That does not look like class egotism. You should admit it is something entirely different unless you wish a low grade of knowledge in your medical advisers.

Your Academy and your profession were ever of the opinion that there must be no free trade in human flesh. Many of your old doctors were abolitionists when this nation was still disgraced by slavery. All of the old and young members who are imbued with respect for human life and health, and with the sense of their own responsibility, have combined to do your fighting, the community's fighting, against the dangers of quackery. It is not the existence of the profession, it is the safety of you, the public, that is enhanced by your special legislation. Two things I have been told; sometimes one was that, no matter how low the standard of medical men was in some parts of the country, they were always superior to their community; the other word was, doctors were generally better than the public deserved or deserves. You can prove that such is not the case by co-operating with your doctors. We beg of you, we insist upon it, that you and your delegates, the legislators in Albany, may continue to protect you and yours from the inroads of charlatanry and ignorance. Do not forget, however, I speak here of the battle against positive ignorance, assumption, and downright illegal quackery.

The Academy does neither recognize nor fear, as in times long gone by, isms and sects, and for that very reason does not propose to war against them or even to denounce them. In its whole history of the last quarter of a century and perhaps longer, I fail to read of a case of persecution of a man or of a body of men directed against their scientific principles or prejudices. Moreover, to discuss honest scientific errors, alleged or real, in an inimical spirit is to endow them with new life. If there was animosity it has been dying fast. Not that I mean to say that the medical world was always just. Semmelweiss, who was driven by his alleged peers into an insane asylum because he preached and practised upon the knowledge of the contagion of puerperal fever, about

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the same time that our own Oliver Wendell Holmes wrote his wonderful essay on the same subject, or our own Atlee, who was vilified and harassed because of his leading in an operation that at present is of daily occurrence, are evidences of shortsightedness and impressibility. Still, after having observed and co-operated with the profession in this city these forty-three and with the Academy of Medicine these forty years, I know, though errors may have crept in, that none but the purest and most altruistic motives have governed the actions of the profession. Least of all is Herbert Spencer correct when he says that "the incorporation of authorized practitioners has developed a trades-union spirit which leads to jealousy of the unincorporated practitioners, that is, the irregulars; and, like the religious priesthood, the priesthood of medicine persecutes heretics and those who are without diplomas." I trust the great philosopher's sympathy with heretics and those who are without diplomas will never revenge itself upon him and his health.

Great questions of the day have always inspired the medical profession. Both old Socrates and modern Kant expected the light pre-eminently from medicine. It is true that in the politics of our country we have but few medical combatants, compared with the good done by medical statesmen in Europe; but that of Benjamin Rush outweighs many names not belonging to his and our profession; and until the latest time physicians have participated in your reform movements. The Committee of Seventy of 1872 had among its most active members one of the most prominent men the New York Academy of Medicine ever counted among its own, Ernst Krackowizer. In public concerns the Academy was always interested. It took the initiative in many movements, the realization of which had long to wait. Medical school inspection, inaugurated just now, was urged by the profession in open meetings twenty-five years ago, and again by members of the Academy half a dozen years ago. The Willard Parker Hospital was planned and its organization pushed by a member of the Academy. Again it was a fellow of the Academy who renewed, if not instigated, the agitation

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for the new factory laws in behalf of women and children in 1882. Clean streets, or rather muddy and unhealthy streets, also the tenement-house question, also school-houses, and the reception hospital were the subjects of many debates. It was a committee appointed, at the request of the Board of Health, which originally started in the Academy, and which, under the leadership of C. R. Agnew, whose mind and heart have immortalized him in the memory of those who were so fortunate as to live and work with him, reformed the quarantine of the port of New York, and elaborated the plans and estimates according to which the legislature finally restored Hoffman and Swinburne Islands to their present condition. Another committee of the Academy looked after the Croton water and the watershed.

It was through a committee of the Academy that medical inspection of the eyes of all the inmates was introduced in public institutions. If that practice were continued conscientiously, and attention to the eyes of the newborn suffering from the same contagious ophthalmia were made compulsory, there would be many vacancies in our future blind asylums.

The Academy's efforts joining those of other medical bodies of the land in favor of the establishment of a National Board of Health, were, however, not successful. They will prove so in future. For just as certainly as this nation means to continue "now and forever, one and inseparable," its most sacred boons, viz., health and life, interdependent as they are over the vast area of the country, should be secured by uniform legislation. It was the Academy of Medicine, again, which was called upon to protect the port and the city against the invasion of cholera. That was four years ago—a long time, perhaps, for republican memories; but it is not forgotten that the committee men, though among the busiest of the city, were always at their post; that their efforts were successful and at that time appreciated; that they aided in keeping cholera out, and, at the same time, protected the commercial interests of the country. We trust the chamber of commerce has not forgotten its own estimation, as then

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expressed, of the Academy's services. Nor have the poor of this city, and of others that imitated its example, a reason to forget the Academy. The agitation for the establishment of free public baths was begun by one of its fellows in 1890, and has resulted in the erection of four such institutions. Two hundred and fifty thousand people availed themselves of the opportunities thus offered in a single year.

The responsibility toward both the public and the profession was always deeply felt by the Academy. Its library is free to the whole profession, fellows or not, and to the public at large. Besides medical works, it has many of interest to the legal profession. By both it will be readily admitted that there are more useful and more congenial relations between them than when they meet in a court of justice, where the medical man, clad with the mantle of partisan expertship or expert partisanship, does not shine to advantage, and is apt to contribute less to the honor and dignity of his profession than to the miscarriage of justice.

The Academy's hospitality is constantly exhibited in the cases of the numerous national medical societies which convene gratis under our roof. The Society for the Relief of Widows and Orphans of Medical Men, the Saturday and Sunday Hospital Association, the Ladies' Protective Health Association, are made welcome on the same conditions.

The Academy is recognized as their head-center by other medical societies which cluster around it. It is in its section rooms or in Hosack Hall where they hold their regular meetings; one at least gave up its independent organization to become a section of the Academy. It cannot be avoided, however, that the generosity of the Academy is occasionally abused. Now and then we hear of desirable men who refuse to join and pay the annual contribution, on the plea that without personal membership they enjoy the privileges of those who pay their dues, that is, access to the building, the meetings, the papers, and the free library and reading-room. Such occurrences do not prove much, while exhibiting the broad-

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mindfulness of the Academy, except the occasional presence in the medical ranks of selfish men. Fate made a mistake when it admitted them to American citizenship and to a liberal vocation. Membership in a profession is by itself not sufficient to ennoble a man; it is the noble man who adorns and exalts his profession.

Nor do the academicians confine their labor to their own institution or to the city. There is no national association in which they are not interested and co-operating. It was a fellow of the Academy who established a section for diseases of children in the American Medical Association. Its members are largely represented in the Association of American Physicians, and in the American Surgical, Pædiatric, Climatological, Gynæcological, and other societies. In the trans-Atlantic congresses, the British-Medical Association, and the international medical congresses, their names are frequently met with.

What I could say, fragmentarily, though it be, should have convinced you that the best individual and collective efforts of the profession as represented in the Academy, are being spent in the service of the community. In the same degree that the intellectual and scientific development of medicine and of the profession has been progressing, that service became more valuable. Now, on all your lips I am reading the question: What can the community do for the science and art and the profession of medicine, and particularly for that of the city?

The monarchies of Europe, particularly continental Europe, have had medical schools these five hundred years; in this century their number increased. The facilities for teaching and learning were enlarged. In the last twenty-five years laboratories and clinics and libraries grew steadily with growing demands. The professors are salaried, their future is secured by pensions, their incidental expenses paid, their lives are allowed to be dedicated exclusively to scientific research; for they and their children will not go hungry. All this is done without individual exertion or contributions. No matter whether wars crippled the means of the people, or whether militarism sucked the marrow of the land, or the sterile soil

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did not even feed the mostly agricultural population, the universities were provided for more or less generously by the government, at public expense.

With us the community is its own providence. The democratic citizens are their own sovereigns, and their means permit them to give way to their generosity. Schools, churches, nurseries, hospitals, libraries, have been its main beneficiaries. Medicine, however, has not yet received its full share. Still the benefactor of Johns Hopkins University and Hospital, the New York family that erected and endowed college buildings, laboratories, and hospitals for a medical school, the donors of the Carnegie and the Loomis laboratories, the founder of the Pepper Laboratory in Philadelphia, and of the Bender Laboratory of Hygiene in Albany, have accomplished exactly, and often most generously, what is carried out by the sacrifices and exertions of whole monarchies. Again, only a week ago, we learned of the offer of a million dollars, made by a fellow-citizen, to whom our Academy also is under obligations for powerful aid, for purposes both of relief and instruction. You call that "royal"? No, ladies and gentlemen, that is not royal; it is the spirit of republican citizenship, dreamt by a Plato, realized by an American. Nor am I disposed to forget what we, the New York Academy of Medicine, owe to the New York public. It is with its spontaneous and valuable aid that we were enabled to erect the spacious and commodious building in which we hope to meet you again to-night. Though I am forbidden to mention the names of the living, I cannot abstain from recalling the ample bequest of the late Celine B. Hosack. It is to that liberality of the community that we have again appealed lately in our efforts to raise our library fund to one hundred thousand dollars. The response elicited thus far appears to justify our hope of attaining our ends in the nearest future; it certainly proves that a generous public appreciates the additional factors of learning and erudition in its skilled medical advisers.

Nor does the Academy appeal to you in its own behalf only. Every advance in the standard of medical

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education is a new ally to the Academy. The medical schools need endowments, like ourselves. Medical teachers are not rich; they should not be expected or made to look for a livelihood to the fees obtained from the students; that is a fact now acknowledged, and an ideal realized in the medical department of Columbia University. Laboratories of hygiene, chemistry, physics, botany, biology, should not be supported by the contributions of medical men only, or perhaps not at all. What monarchy is in the old world, that is democracy in the new, namely, the evidence and representation of the condition of its political and moral civilization. Hospitals you have built in large numbers, and in some instances more than required, and still some more are demanded. No scholar is imaginable without a library, no anatomist without a dissecting-room and a museum, no chemist or physicist or physiologist without experimentation, no medical graduate who is to practice on you and yours without instruction in a clinical hospital intimately connected with the medical school, and situated on or near its grounds. Imagine, mothers, that every year hundreds of men and women begin the practice of medicine without ever having seen a baby sick in bed.

There is many another way in which the community may render itself useful to the medical profession. See to it that no personal interest, vanity, or misapprehension interfere with the progress of medicine. It is through our own efforts that we overcame the lack of knowledge on the part of legislators, and the opposition of medical schools, when we enforced a certain amount of preliminary education and the establishment of State examinations. See that these your gains, for they are yours, be not taken away from you; they were conquered in your behalf. See that scientific study and progress are not shorn of their prerogatives, that is, experimentation, and that your legislators are not influenced except by facts. When, for instance, agitators speak to you of the cruelties of vivisection remember that they select that hard word in order to conceal what it means, that is, animal experimentation, which is already secured and protected against barbarous-

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ness and cruelty by a well-adjusted and satisfactory law that was passed by former legislatures and ought to be left intact. Tell them also that you know that the action of many therapeutical remedies useful to them and their children could be studied by animal experimentation only; that one of the most formidable calamities of former times, the terror of every woman who was to become a mother, childbed fever, has been reduced to the very lowest figure wherever the teachings of animal experimentation have been heeded; that hydrophobia, always fatal, has been made accessible to treatment with at least fair results; that tuberculosis may be and is in part confined within certain limits; that the prevention of cholera, even that of the plague, is no longer a dream; that the mortality of diphtheria is reduced to nearly one-half of what it was; that quite certainly the future therapeutics of scarlet fever, measles, typhoid fever, and other scourges of mankind will be based on antitoxins; that the success of surgical operations under the influence of antiseptics and asepsis is simply marvellous; and that all these blessings are the direct result of animal experimentation. Tell them also that the horse or sheep that furnishes the antitoxin which is to save American children does not even suffer, and if it comes to the worst, if rabbits and guinea pigs have to be sacrificed by humane men armed with skill and anæsthesia, that the future ought to belong as much to mankind, aye, more to mankind, than to rabbits and guinea pigs, or to those animals that you hunt over fences and brooks, and with the permission of the law shoot to death amidst the excited laughter of sport, but pretend to shed tears over when science tries to fathom new wonders, to establish more firmly the foundations of health and life for old and young, and to discover new means of salvation for this republic and mankind.

In what I state I identify the demands of the profession at large and of medical science with those of the New York Academy of Medicine. Ours is "*Una fides, altare commune*," one faith and a common altar. That shibboleth you will find is the sole inscription on our home in Forty-third Street. What you will do for one you will

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be doing for all. Whatever you do, you will contribute to the medicine of the present and of the future, and to the great work in store for it. We know that it is levity only that makes empty hypotheses, sometimes, unfortunately, even laws; that much labor, however, and hard work are required to obtain great results. In all humility, but with earnestness, medical men tender you their labor in practice, in hospitals, on the teachers' platform, in the laboratories. What they expect and look forward to is appreciation not of the individual, but of the aggregate work, and co-operation on the part of the public, for the immediate results of our work are at the same time humane and practical. The reduction in your death rate of one in a thousand means, beyond the saving of one life, a lowering of more than thirty in the total number of cases of sickness, and therewith prevention of much anxiety, wretchedness, and financial loss or ruin in as many families. Results like these are liable to be accepted as natural; they are claimed, as it were, as the normal appendages of modern civilization. It should not be forgotten, however, that they are obtained only by the work of medical men who labor for the good they can do, often as hermits, unknown and unappreciated, always bent upon the diminution of the number of problems which hitherto were deemed hopeless. The medical searcher is like the astronomer who differentiates in nebulous distances stars big and small, luminous and dark, fixed and migrating. More than any other man, he spies for the relation and connection of things and phenomena, and becomes the true philosopher and physician, who was called godlike by a great poet three thousand years ago.

Much of what I touched upon has been, or is being, accomplished. The rapidly increasing facilities of investigation have changed the methods and aspects of modern medicine to such an extent as to make me anxious to know what the orator of the next semi-centennial celebration will have to say to you. Part of it I know, and you will know it too when I beg you to consider with me during the last minute of my address the possibilities and the certainties of medicine. Its methods of investiga-

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tion will never be changed, for they have become those of natural science, and these, because they are based on observation and experimentation, are unalterable. Indeed, medicine is a part of the natural sciences; the human organism, well and sick, physical and spiritual, is the subject of its scrutiny. Man's nature, both normal and abnormal, belongs to the domain of medical inquiry. Psychology has for some time past become a branch of physiology. The sound mind, its aberrations and freaks, the soul with its holiness or turpitude, no matter whether considered by the believing philosopher or the searching materialist, are topics of biological study. The explanation and relations of most intimate physical and psychical processes are sought for, will always be sought for, by the sanitarian, the teacher, the clergyman, the judge, the statesman. It is in medicine that they will find them. The time will soon come when the culture of a nation will be estimated according to the mutual relations of medicine and the people.

Is this an ideal? It is, but no Utopia. Indeed, much of what was an ideal twenty-five years ago, has been achieved. It is probably true, however, that no ideal will ever meet with its entire consummation, and ideals will be modified or expanded. Nor do I believe that even the star guiding the three sages of the East shone always with equal splendor. Thus it is possible that what I earnestly hope for in the next half century will not be completely fulfilled; but woe to the man, to the profession, to the nation, without an ideal as a guiding star. To medicine in its legitimate and just meaning that star is the improvement of man both individually and collectively. It demands and promises the combination of scientific research into the wants of mankind, with the application of preventives and remedies for its physical, intellectual, and moral dangers and defects. To keep and fortify medicine on that platform is the ideal of our calling. By working for it, medicine and medical men may create that power which alone protects individuals against hebetude or despair and nations against wreck and perdition. That power is benevolence, beneficence, and mutual assistance.

REMARKS AT THE ANNIVERSARY OF THE NEW YORK GERMAN MEDICAL SOCIETY

You are now prepared to occupy yourselves with two of the most notorious seducers of the people, of which Adronicus wrote in 1731, to wit, coffee and tobacco. This, your occupation, offers me an opportunity to perform the agreeable duty of welcoming members and guests. The former have not appeared in as great a number as they have done sometimes under the compulsion of internal or external necessity, in the interest of an election, or under the allurements of an interesting subject. But the gentlemen will please not to forget, that as long as the society is of the opinion that its existence ought to be celebrated annually, it ought to be the task of everybody to participate. Neither carelessness nor affectation of superiority offers any excuse. This task of which I speak need not be at all confined to self-congratulation that "we have accomplished such splendid achievements" and in the more or less eloquent expression of the estimate we place upon ourselves, and in the pronouncing of the hope that Future "whenever the best names are mentioned" will not fail to mention ours. However, that the realization of the last-named hope will be difficult, we must not try to deny. For the level of medical sciences and art is rising from year to year, and only a few men and associations can succeed, therefore, to perform services of recognized prominence. Fortunately such services are not hidden by the great mass of the shallow and compiled productions that appear in print, and all who take a lively interest, as producers or spectators, enjoy the lively current in which investigation and application are comprised at present. It is true that the latter has to suffer from our predominant Commercialism. We are in a period of

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transition—I hope it will soon be ended—in which the appreciation of knowledge seems to be left behind by that of a small portion of skill. Indeed, specialism, as much as medicine owes to it for its development, does not always send forth the finest blossoms. The majority is satisfied with any amount of skill whatever. But when we turn our glance to the leaders of the specialist branches, scholarly and practical at the same time, far-sighted, and correspondingly modest, we look forward hopefully towards the future development of our science.

Specialists and general practitioners are represented in this society. You will have seen, that often the discussion even of the most special subjects has been of a general character, a proof of the fact that with us the solidarity of the separated members has been realized. The achievements of the society have been satisfactory this year; in Europe, it has been frequently mentioned, as well as its Monthly; and there are many of you who enjoy a national, and even an international, reputation. They begin gradually to understand on the other side, in our old Germany, that the intellectual capital which German medicine has invested in America, and especially in this society, bears interest. You may be as proud of this fact, as we all must with the greatest satisfaction acknowledge the fact, that the medical production in the country that did not refuse us welcome, opportunity for work, and willing recognition, has found in the whole world well-merited appreciation. What is left for us German-Americans to do, is this, that we take care to advance, breast by breast, with our colleagues. We may, then, congratulate ourselves, indeed, on our endeavors, accomplishments and experiences, and for the fact that we have obtained a position where we do not only receive, but also give, and finally on the fact, that we are destined to demonstrate that science has not remained national, but has remained cosmopolitan.

What we receive, we enjoy; of what we give we ought to be proud without being overbearing. What one people gives to another must not be of necessity a capital of knowledge only. Aside from the intellectual gain there stands in many-sided production a moral and social-political gain

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of equal value. During the past year, for him a year of achievement of long endeavor, one of your members, a man of a German heart, of hellenic spirit and democratic generosity, has succeeded in opening new roads, full of promise for the future of the intellectual, moral and physical development of the academical youth of Germany. I do not need to mention his name. History of civilization will not forget it. As a good American I am glad to see that a break of democratic spirit, originating in America, is reviving and warming the world in new fields, and that an American physician has been allowed to become a benefactor of German youth, and a promoter of its culture. As a German-born physician, I feel satisfaction in the knowledge that it is another native of Germany who builded a bridge in the service of humanity between the two continents. As a member of this society I congratulate myself and you that a man with such a great desire of his heart, such a wide view, and such opulent liberality belongs to our circle. As a Social-Democrat I am pleased by the fact that after study and science have become cosmopolitan, heart and generosity find themselves not limited by the ocean either, and I am glad to feel that not grateful acknowledgment of a king, not even of a university, can equalize the grandeur of the deed.

We do not share in the deed; but we share the knowledge and the pleasure, and have the great satisfaction to see it demonstrated by an illustrious example that history does not always grow spontaneously, but that it may be made by one single man with a great heart and a wide horizon. *Sequens Vivat.*

Now, ladies and gentlemen, I shall introduce to you the speakers of the evening. Do not imagine that you can judge the pleasures before, from the ten minutes allowed to everyone. Ten minutes may be and make an epoch. In ten minutes light radiates over boundless worlds, in one second the electrical spark encircles the globe. With seven loaves of bread and a few fish four thousand were fed, and twelve basketsful of crumbs were left.

The response to the first toast for the society will be given by the resigning president of the society, Dr. Freudenthal.

ADDRESS AT THE UNIVERSITY OF MICHIGAN,
JUNE 29, 1898, ON RECEIVING
THE DEGREE OF LL. D.

I do not attempt to justify my presence amongst you. I had permission to come. Why? I leave that for others to decide. The sun shines on the just and the unjust. This time he thought it was my turn, so he shone on me. And here I am to express what I could not do to-day, my thanks for the many acts of kindness volunteered by you and the great honor conferred on me. I wish I knew of something I could give in exchange. Should I speak of medicine? There is one thing in which I equal Socrates, who rebuked those who believed they knew what they were ignorant of, and claimed the advantage of knowing that he did not know. I even believe I excel him, inasmuch as I can prove that I have accumulated a vast amount of ignorance in medicine. Since beginning the study of medicine over fifty years ago, practicing it for forty-five and teaching it for thirty-eight years, I have had to learn and unlearn, relearn and re-unlearn once or twice every decade until I felt like a new-born Adam, naked though not unsophisticated. In this view of my shortcomings I was frequently confirmed by those who were still younger than I was. When in contact from year to year with men who had just passed their examinations before me and others, and knew books, my own amongst them,—or were entering a hospital as internes, I often felt like them—that they knew it all and I nothing. At any rate, they were so impressed and tried to make me feel so. I know of but few exceptions. One,—I may tell you as a sort of anecdote,—concerns one of my masters and teachers—yours, too, by the way, Wm. H. Welch, of Johns Hopkins. I pay a prize to whosoever here does not know him and admire him. He said to me lately: “Do you

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remember the first round I made with you in Bellevue twenty-five years ago?" "No." "I do, and wholesome it was. I requested you to make a diagnosis for me in the alcoholic cell. You diagnosticated a hemorrhagic pachymeningitis; two days afterward we made the autopsy, and that is what it was. Then I thought I had a good deal to learn yet, and I am still of the same mind." But not everybody is Wm. H. Welch. He belongs to the privileged ones who believe with Lessing, who said that, if offered all the wisdom of the universe in one hand and in the other the longing and working for it, would select the latter.

Not knowing anything, or much, about medicine, I have something else to fall back upon. You may have heard that I have a new diploma of LL.D., and therefore you have a right to expect that I know all about law. Contrary to the habit of some new men who utterly refuse to enlighten an examiner by answers either correct or incorrect, I shall now divulge some of my legal knowledge. When I shall have finished the jurists here will still hope I know some medicine, and the medical men may wish I had joined law forever.

Both medicine and law were originally the outgrowths of necessity, of experience in that period of mankind in which history may be believed to have started, that is, the antediluvian time in which man needed no longer merely to submit and suffer, but learned how to utilize things outside himself, to relieve sickness and injuries which resulted either from accident or from the ill-will of his peers. But medicine and law were of the simplest characters—without gilt-edged binding—both were empirical, both stored up experimented facts which were systematized for us by Hippocrates 2300 years ago for medicine, by Justinian 1400 years ago for law.

There is this difference between the professional lawyer and the professional medical man,—that now and then the layman admits the lawyer knows more than he about law. That is never so in regard to medicine.

Both law and medicine are experimental sciences. The lawyer experiments on man, always the other man; the

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medical man on a lower animal, either a guinea-pig or rabbit, sometimes a dog, or even upon himself.

In many instances they co-operate. Injuries, poisons, doubtful deaths, from birth to old age, require the services of both law and medicine. They do not rival nor cross-examine one another, they co-operate on equal terms. That is why you are doubtful whether you should speak of forensic medicine or of medical jurisprudence. It comprehends all that is most learned, and precise, and shrewd in medicine and law. Its domain is health, and life, and justice.

Both law and medicine are meddled with by ignorant, incompetent, or wanton people who would not go into the water when they cannot swim, but go to law improvidently, or who dare to take the responsibility of talking and practicing medicine. In the worst case this leads in law to lynch law; in medicine to quackery. Both are believed in for the same eternal reason, viz., "*quia absurdum est*," "*because it is hopelessly absurd*." Mistakes in either law or medicine may be fatal—in law, mostly to property; in medicine, to health and life. In law judicial murders are not unknown; in medicine? Well, if all the deaths attributed to medical men were really due to them, and all the recoveries were justly attributable to the sound constitution of the patient alone, which got the better of the combination of illness and doctor, the shingles would all come down at once and the road to the almshouse and the other place almost as bad, only hotter, would be paved with them.

Neither law nor medicine seems to be very comprehensive or compendious. That is why they are being schematized and catalogued, and done up, and sometimes done for, in digests and cyclopedias. Specialism proper and improper has sneaked into both law and medicine. Law is subdivided into the civil,—not always very much so, however,—patent, criminal, corporation and lynch specialties. Medicine,—besides some more legitimate ones,—into nose, rectum, corn, appendix, lung, rheumatism, camphor, Lydia Pinkham, and Eddy.

Are there fashions in law? Here, I admit, I am short

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of knowledge. In medicine there were and are many, all of them parallel to the transformation of human opinions, and prejudices, and knowledge. No vital interest of mankind has ever been so neglected or hindered as its most beneficent and powerful servant, medicine. For instance, like the anatomical dissections of the dead which were forbidden by laws and prejudices, and the post-mortems which are still quite often rendered impossible by social customs or alleged religion, so to-day prejudices and ignorance of facts, and misguided sympathy and sentimentality try to inhibit animal experimentation, without which neither physiology nor therapeutics could thrive. Stop animal experimentation and you deprive yourself, and all those dear to you, of the most powerful remedies by which suffering and mortality may be and have been reduced. Remove animal experimentation from the history of medicine, and most of our knowledge on circulation, digestion, respiration, and the nervous system would not exist. Many of the miracles of surgery exhibited in every small town of the globe could not be performed, the action of most medicines could not be learned, and diphtheria would still have it all its own way.

But more! When finally autopsies were made, the significance of their teaching was often doubtful, the methods of research being defective. In spite of the improvement of tools from Leeuwenhoeck to Zeiss, the very microscopical images may be differently read; different methods of hardening and staining may yield different results; the differentiation of bacteria is far from complete,—indeed, with every step forward the intricacies and difficulties become more perplexing. Who wonders that theories abound and fashions creep in, when the subject of study is as complicated as the human organism. Remember it is but sixty years since the cell was recognized as the building material of the plant, and that cellular pathology is not half a century old.

You see lifelong habits and training carried me back into medicine. Perhaps it would be best to stop right here. But after having taught these forty years I may be excused for addressing myself, before sitting down,

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to those to whom I owe so much and who, while I may have instructed them, have constantly taught me. I have lived with the young. If it be true that I remain younger than my years, I owe that to my companions. To my equals in years I advise the same *modus vivendi*, if they wish the breath of youth to rejuvenate them,—it need not always be the breath of young girls in which venerable King David sought health, and which was recommended as the panacea for all ills in a big volume published 200 years ago. I give the same advice if they want the conceit of advancing years or fossilizing mental atherosclerosis knocked out of them.

So here is a word or two to my chums and benefactors, the young men, both medical and others. They have to live after us.

You are at the beginning of your career. The earlier you started and the more conscientiously you pursued your studies, the more you will be aware that you have just begun your studies in earnest. To every one of you I say: If you are as good as your neighbor, he is as good as you are. You are many, you crowd each other; if you want your elbows free, raise our eyes above the clouds, and climb, climb; there is ample room above. You do not live in medieval times, when ignorance was dense all around, and enlightened minds and wonders of learning but few. The modern average is higher, and it takes an intellectual Saul to tower over the heads of all fellow men. It is true that not every one of you will be eulogized in the book of history, for the records of the universe are inaccessible for most individual men or women or names,—no matter how ample their brains, how large their hearts, or how strong their arms, or how numerous their valuable or worthless contributions to literature. But if it is not everybody that will succeed in turning out to be an intellectual hero, the next best thing is to work for it. There is room and opportunity for every one of us. Neither science nor art is complete or perfect. They are in evolution, and require very many wheels to push the chariot to the heights. Let each one of us be one of the wheels, with the ambition to land it and ourselves on the summit.

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I wish I could impress every one of my young friends with that ambition, for the road before you is steep and demands strength of character and an idealistic mind, perhaps more at present than ever before. What mankind requires still more for the future which is sure to come is, confidence in and hope for that future. It is the liberal professions with their intellectual and moral outlook afforded by the culture both of mind and heart that will first turn their eyes to the consummation of that ideal. I am a practitioner and a teacher of practical things, and not given to the oratory of either stump or pulpit, but if I had no such ideal, no matter whether within reach or beyond, I should give up in despair and grow old. Now, if there be any class of men or women who besides health of body and mind require an ideal more than any other vocation or profession, it is the medical man or woman, for their actual life is hard work, perpetual strain, and mostly commonplace. Almost impossible exertions are required and they need a sun to warm them, a star to guide them, an ideal to steer them.

With an ideal to guide you, you will be enabled to contribute to the problems of the future. For the medical man, for medicine, that problem is prevention or cure. No scientific study is ever so minute or theoretical as not to be utilized for the practical purposes of therapy. The object of all physical and mental effort of men is man. The evolvment of a scientific fact, though it affords ever so great an intellectual gratification, becomes sanctified only by the service it renders to humanity. Thus in whatever capacity you may serve your science and art you will serve mankind. Some will serve the individual, some, with greater powers and opportunities and aims, the community and commonwealth. Society will always have to depend on, and to be guided by, its best and most idealistic members. In the work which is required, medicine will be seconded by law. If the future of mankind is to be one of health and justice, medicine and law must co-operate. Purified politics, that in which the meaning of the term politician is that of Aristotle, viz., citizen, will require the services of both, and all. Your university

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is one of the first scientific institutions of our land in which all the intellectual interests imaginable were united. It is an alliance of the most various faculties into a philosophical aggregate. In this spirit, future mankind, in the evolution of which we should all be active, will be a university of nations, shedding peace on earth and good will to all men.

REMARKS AT THE FIFTIETH ANNIVERSARY OF THE REVOLUTION OF 1848

A BANQUET speech, I have been told, must have two qualities: It must be short, it must contain an idea, if it be only one. The shortness will be furnished by me, the idea is given by you. You have embodied it to-night by connecting with the presence of the few surviving Forty-eighters a celebration, which represents a memory of by-gone events, and manifests the sentiment with which you regard the evolution of the nations throughout the times. We, the older ones, who began the past half-century as vigorous and enthusiastic youth or young men, have felt and done in those days what is alive in you to-day. That is the belief in man, in his growing maturity, in a better future, and the consciousness of mutual obligation and dependence of man on man, of nation on nation, and their solidarity. This ideal trait comes to the surface occasionally in every civilized community. Just now we see a rather promising illustration. The great majority of our people approves of our war from motives of humanity. The principles of the Declaration of Independence of 1776 have become a part of themselves; for the people, if not for the politicians and speculators, the starving and dying of their neighbors became unbearable and demanded relief, no matter at what cost.

We who are your guests to-night have not all done work in the same manner, or had greater or lesser experiences. The battle-field, the speaker's platform, the writer's desk, the parliament, the penitentiary, working and thinking, doing and suffering—all had to fertilize the soil on which the harvest of new formations in the life of the European nations, of new ideas and ideals has grown; all have undertaken, in a certain sense, the great struggle which has been fought in the interest of culture for

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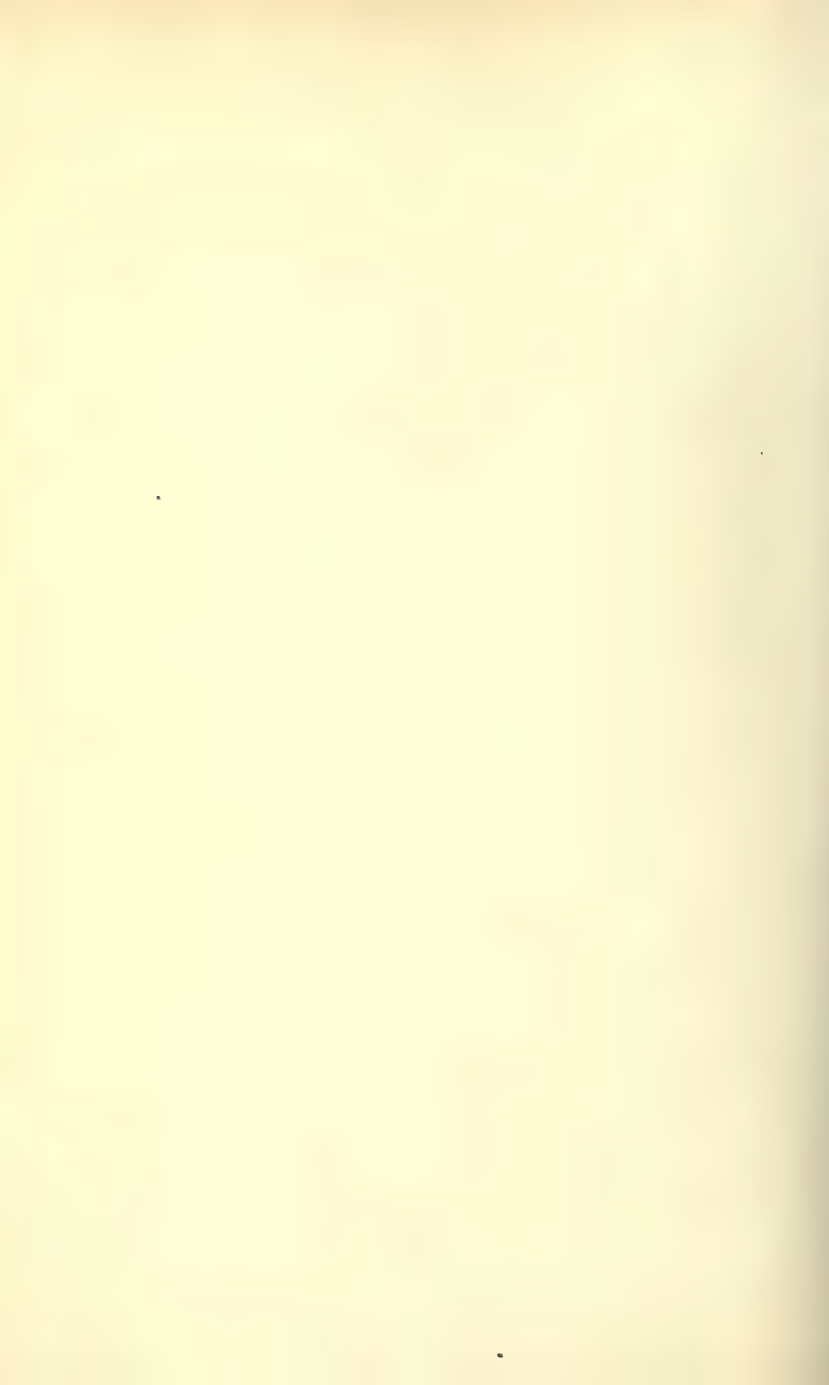
thousands of years. Have we been defeated? Did the reactionary forces storm our barricades? Nothing of the kind! We and you and everybody who harbors ideals in his breast have stormed the barricades which Absolutism in Church and State had erected and defended from eternity against human liberty and spontaneous evolution; and are still at work, for the distributive and inhibitive powers are ever active.

When the fairy-tale of the Poles, French and Jews would work no longer, it was said, it was youth alone that made the revolution. It is true, old age is conservative, and ossified old age even reactionary. But the idea of old age is comparative. Mankind does not know declining age, as little as nature. Not even its well-established continuity is a standstill. The giant trees of the Yosemite never stood still in their growth; every spring brings fresh youth to their life of a thousand years, and each fresh ring of the enormous trunk is expression of a new struggle. It is true that we are young, and thousands with us; youth is the oxygen of the growth of nations, but not only the youth of years, of sentiment, of endeavor, of energy. Amongst the few of us whose names will history name forever with admiration and gratitude? Who of us ever thought Schurz, Sigel or Kudlich to be old—who, I ask you, but those who have failed to learn the art of staying young forever? The macrobiotic art, the art of prolonging life, is an empty endeavor compared with the perpetuation of youth. If there are amongst you those who are afraid to grow old, I recommend to them an approved prescription: Always keep in touch with the ever-growing young generation—"youth is not an empty vision"—take part in their ideals, and keep interested with the things that are young forever, with the interests of ever-rejuvenating and growing humanity, or with science. The fountain of youth is no fiction. Though the arteries may ossify in the course of years, of decades, if only the heart remains open for the circulation of new impressions, the mind receptive and the eye clear for every new green of the spring of Nations, the soul will be

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kept vigorous in the breeze, mild or powerful, which is destined to purify the atmosphere of mankind.

The breeze has not passed. Revolution, evolution, reform, progress, all are noble manifestations of humanity "so restlessly wrestling for emancipation." Everyone of us may find a place in the great army of champions of culture and humanization, be it as a general or as a private. There must be nobody amongst us who, when he has extended his years to 60 or 70, cannot say of himself, nobody of whom his juniors surrounding his coffin will not willingly testify: "He has filled out his place."



ADDRESS AT ANNUAL MEETING OF ARMY SURGEONS, 1898

WHY is it that the Army has a "Surgeon General," when there are European nations with armies ten or twenty times the size of ours who are satisfied with a medical general? It is well understood that the first medical officer of the army should not operate on the field, that he should have a general knowledge of medicine, and particularly of its branches of hygiene and sanitation; that those who die on the battlefield require no assistance,—and we have proof that for one wounded man, there were five, ten, or twenty, who were worn out, starving, or ill. It is not bullet holes or sword slashes that kill our men; it is exhaustion, malaria, typhoid fever, and dysentery. Take our "Surgeon General's" answer to his critics, published four weeks ago (*Medical News*, September 10th, 1898). I find no word in it of operations or operative methods, or the treatment of wounds. What he speaks of is the size and soil of the camp, and the condition of the wells. He deals with alvine injections, with experiments in Koch's laboratory, with calcium oxide, and with typhoid fever. The literature the Surgeon General refers to breathes no word of surgery, but it is his "Disinfection and individual prophylaxis against infectious diseases, 1886," his "Manual of Bacteriology," his "Manual for the Medical Department," which is in the hands of every officer, as is his circular of April 25th, 1898, concerning typhoid. In all these writings and circulars the "army surgeon" is called a medical officer.

The fact is that most wounds are best treated medically, with rest, immobility, and asepsis or antisepsis. We have not forgotten that there were many who said nearly twenty years ago that a president of ours need not have died if he had not been treated "too surgically," and with a little more knowledge and judgment.

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In the first winter of the Crimean war the English lost of infectious diseases 10,283 men, the French, who were four times as numerous, 10,934. In the second winter the French lost from the same causes 21,182 men, the English 531. Who saved the ten or twenty thousand men who would have died if circumstances and measures had not been changed by the English?

The English, who learn from experience, obeyed the rules and regulations laid down by their medical sanitarians, and saved their army. What we shall require in future, if we mean to use our language correctly, will not be a Surgeon General, but as it has a Commissary Department it should have an official Health Department. By so recognizing by name what it means, we shall, perhaps, take it for granted that neither starvation nor stench prevents mortality amongst soldiers.

It has been said that medicine is becoming more surgical from day to day, and abdominal operations are presented to us as the proofs. We should not, however, be imposed upon by the brilliancy of an operation. Mere operative dexterity is handicraft, not medicine, it is art, not science, it requires more skill than brains. The safety even of operations has grown out of medical laboratories. The blessing of aseptic operations is not surgical, but medical, and the uneducated bunglers in surgery owe the safety of their strutting assurance to the tricks they and their nurses have learned, not before the altars, but in the vestibules of scientific sanctums. Thus, instead of medicine having become surgical, surgery is fortunately becoming more and more medical. Genuine surgeons, as all great specialists, never cut loose from medicine. You Philadelphians should know that better than others. Your Gross and your Agnew, and your Keen, the author of "The surgical complications and sequelæ of Typhoid Fever," are instances of medical men who while being experts in medicine, happen to be accomplished in and fond of its operative part.

ADDRESS AT BANQUET OF THE NEW YORK ALUMNI OF THE UNIVERSITY OF MICHIGAN, 1899

IN the circular of your committee of arrangements, reference is made to the Ann Arbor round table, an unassuming way they have of speaking of themselves. My intuition tells me it was more. That secret round table was a sort of modern Grail Society which assembled, like the Knights of the Ancient Grail, under the tavern sign of the dove. They met annually. From Wagner's Lohengrin, you recollect:

"Once every year a dove from heaven descended,
To strengthen the Grail anew for works of grace."

The 'dove, however, was not exactly a dove, but some other biped, such as a squab or chicken, or duck, with concomitant vegetables and what is called in English "*hors d'œuvres, entrées, sauce à l'Anglaise,*" etc. There is this difference, however, between the mythical grail and the modern round table, that our men did not insist upon being unrecognized. What they want of you they say over their own honored names,—and when I look about I know they have succeeded.

Succeeded,—in what? In bringing together the dispersed sons and daughters of a common home in this far away eastern part of our vast country. The alumni of a university remind me of the relation of our States to the Union. Separated by boundary lines and local interests, they still cling to a common center. To you the University of Michigan is a home which, though you may never see it again, binds you together in one family.

I can imagine that your Association will be endowed with unusual strength for reasons which in my mind are in-

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timately connected with the impressions I gathered when nearly a year ago I enjoyed the great privilege of being a grateful guest of your University. Being unaccustomed to what I saw or thought I saw in Ann Arbor, I shall now tell you in a few simple words what I beheld.

There is a city of 13,000 inhabitants, two-thirds of whom, it appeared to me, took an intrinsic part in the life of the University. The comfortable homesteads and cosy dwellings, the green lawns and shady maples, the quietude and restfulness, the absence of loud noises and importuning sign-boards, were a welcome substitute for this Babel of ours, and for the demoniacal railroads. If anywhere, it was here that learning, philosophy, and the muses might find a resting place. Nor was the peaceful hospitality I enjoyed in the homes of some of your professors in contrast with the general impression of tranquillity and intellectuality. I was then told that three and a half thousands of students and teachers lived with a population of 8,000. The mental atmosphere of the town must needs be influenced by the presence of the legion of working intellects. In a large city like New York the great institutions of learning may be ever so active, they will not give the intellectual coloring to their surroundings. Here trade, commerce, and finance predominate and control the tone and the concerns of the community. There is no campus common to all faculties, no close proximity between students and professors. The distances and differences of interests and the lack of time are such as to preclude the possibility of manifold intercourse. After I have been a teacher these forty years, and connected with Columbia University these thirty years, there are many of the instructors in my own department whom I have never laid eyes upon, and but few in the others with whom I ever had anything in common, either physically or intellectually. The breadth of culture and the multiplicity of intellectual interests resulting from the constant friction of men with different views, methods, fields of learning, and special studies, cannot be furnished by a metropolitan University, though the very life amongst the

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seething millions affords by itself a multitude of impressions, suggestions, and teachings. It is mainly the young who suffer from that circumstance. We may furnish to the community well-informed *medical men*, but it is not always that we are sure to turn out *men*,—bright and successful lawyers, inventive engineers, even thorough philologists, but we offer mostly nothing that makes them else but one-sided. They are supplied with a narrow horizon that prevents them from seeing the light in more than one direction. A great institution allows the student to develop perhaps into a competent medical man, but not necessarily into a good physician, or one who knows how to feel the pulse of suffering mankind; into a shrewd solicitor, but not always into a bulwark of justice; into an engineer who builds a bridge over a fierce torrent, but does not connect the interests of mankind as a statesman; into a bookworm who writes a learned work on the aorist of a Greek verb, but does not understand the importance of his obligations to responsible and responsive human souls. One-sided information never warms the heart, never enlightens the mind, nor improves the code of social or professional ethics. Indeed, it is amongst this very class itself,—thorough, but specialists in information,—lawyers and clergymen mainly, even journalists, that we find the adherents of all sorts of sectarianism, clairvoyance, Christian Science, and medical and political quackery. You understand me perfectly, I trust, though I must be brief.

What I mean principally to emphasize is the facility with which a large city, instead of filling the soul with a multitude of connected impressions and interests, is liable to isolate the student and to restrict his mental horizon.

In Ann Arbor I found almost all the University buildings to adjoin the campus, on which necessarily the scholars and pupils would be in the closest possible contact. Dozens of them, belonging to the different departments, would live and eat together; no doubt this persistent contact contributes to broaden their scientific interests and to render them less introspective. There is no reason why under such circumstances a student should not become

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a great savant, but there are many reasons why the constant friction and exchange should make him a broader all-around, cultured man, and—what is more important,—a far-seeing and sympathetic citizen of the republic. That is what built this nation; that is what is the principal reliance in the critical periods no nation is without, in which men are wanted, strong, wise men. Its absence made Hellas perish, when it became true what Anacharsis said of his country, that the wise men did the talking and the simpletons the acting.

I am certain that a large University in a small town, with its refining influence on the community, and the mutual influence of all the departments of the institution upon each other, yields the best means of evolving broad and many-sided men and women. But the University of a small town must not be adapted to the smallness of its surroundings. A large and influential University demands large means. The foresight of Western States cannot be extolled too highly for their establishment of State Universities. But the growing needs of scientific research require centralization and growing means. Legislatures with an eye to nothing but parsimony strangle the life out of science. Science should not be taken for an ornament nor a commodity; it is the lifeblood of a nation. It appeared to me that a few more millions of Michigan's money should be spent on Michigan's University; the legislators should never forget that as long as the University of the State has to depend on the Commonwealth only, and that no private aid can be expected as long as the State has full and exclusive control, the means should be furnished to allow Ann Arbor to sustain forever the high reputation it has conquered through the restless brains of its scholars; here and in Europe, where intellectual efforts are estimated as highly as with us, methods may differ, but the ends of working and teaching are the same.

The methods and attendance of continental European universities differ much from those of ours. There is an alleged freedom of teaching. That, however, does not evolve that Dr. Arons, a Berlin Privatdocent, should not, in spite of the support given him by university authori-

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ties, be deprived of his place by a brutal government this very week. Why? He is admitted to be competent and a good teacher, but is charged with holding so-called socialistic opinions. In that respect, however, we Americans are not always better off, for occasionally, as examples show, the ignorance and the prejudices of boards of trustees rival the aggressiveness of German despotism. Nor was the lawful control of the university authorities powerful enough some ten years ago to prevent the overbearing selfishness of Bismarck from seating his doctor, —a man with an insufficient scientific and a malodorous moral repute,—in a professional chair.

Alongside their theoretical freedom of teaching, they have freedom of learning. There is no,—or at most a single,—intermediate examination. The student changes his university at pleasure. Within four years,—half a century ago,—I studied in Greifswald, Göttingen, and Bonn. There are but few who spend their three or four years in the same place. Thus, while this meandering habit recognizes the ubiquitousness of science, there cannot be much of an attachment to an alma mater. Even personal attachments are more fleeting than when young persons live and work together year after year. Still, club attachments there are many in German universities, but their mutual relations inside a club or society are mostly those of the fencing hall and the tavern, and the *mutual* relations of clubs are too frequently those of bluffing enmity, and of duelling.

This custom, which was natural enough in the centuries of coarseness and small political rivalries, is still in evidence, and bids fair not to die out as long as the mentally infirm and paradoxical head of the Empire favors the ebullitions of the immature minds and the quarrelsome tendencies of the youthful subjects, and calls them valor. There is, however, a ludicrous and exhilarating element in that pseudo-heroic attitude, for in the times of asepsis and antisepsis, the bandages which protect the swelling throats and the valuable livers of the combatants and the anachronistic swords are first dipped in carbolic acid.

In our country the students are more inclined and ac-

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customed to utilize their time in the interest of study. Even if they do not, their sports are decidedly superior to beer drinking and brawling. They are used to continue their work in the same scientific, art, or professional school, or in the same University. That creates a greater intimacy with the teachers and amongst themselves. Their education is identified with that one institution. Hence is caused a greater attachment amongst them and to their alma mater. She is their spiritual home, their real intellectual mother. Moreover, university life being relatively new amongst us, may be more impressive for that very reason; for it is only a few generations that have made of our pioneer and agricultural people one of power, of spiritual ambitions, and of general culture. That custom of our students became the foundation of alumni institutions. These I look upon as a sort of permanent post-graduate institutions evolved in the interest of general culture, the primary foundation of which alone can be laid during the years of undergraduate study. May they, —may particularly yours,—live and prosper, and contribute to elevate the intellectual and moral aims of the people, and to plant an ideal in their breasts. Never was there more need of them in times of war and unrest, and consecutive temptations. Publicola said of the Romans that they thought less of the foundation of the City of Rome by Romulus than of the establishment of the republic by Brutus. Our republic requires no founding; the Washingtons and the Lincolns did all that for us. But the best efforts of the best men will always be demanded for its undefiled preservation.

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IN the first part of the eighteenth century general culture, the natural sciences and medicine underwent gradual but great changes; medicine, however, not always in proportion, for in England Locke's skepticism and Shaftesbury's and Bolingbroke's philosophies did not favor its development to the same degree as did Newton's mechanical foundation of physics, which trained the minds to look for the relations of cause and effect. The brilliant Jesuitism which controlled the mental condition of Italy benefited the upper classes only. That is why in that country natural sciences and medicine had to be their own pathfinders. Holland was tolerant, but indifferent. The culture of France, then greatly under the influence of Locke, was an example and model to all Europe, but science and refinement belonged exclusively to the aristocratic circles. It was only the encyclopedia, the first volume of which appeared in 1751, that, while it afforded the intellectual basis of one of the most beneficent volcanic eruptions in popular evolution, the French Revolution, fostered medicine as it did all sciences. Germany, in the beginning of the eighteenth century, had not even a scientific language of its own. Latin was the organ of erudition and of teaching, and exhibited all the pedantry that could be squeezed into a dead language. One of Germany's great men, Leibnitz, wrote, when not in Latin, in French; only one, Wolf, either in Latin or in German.

The signature of those times was the incomplete knowledge of actual facts. Imperfect reasoning was its unavoidable result. While in our days psychology is becoming a part of physiology and physics, thinking at that period was metaphysical throughout.

Cartesius recognized one thing only that was actual—the power of thinking. "*Cogito ergo sum.*" Thinking is to him the source of every knowledge. Leibnitz elaborated this dogma contrary to the sense of Democritus. This

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ancient philosopher constructed the world on the foundation of matter; Leibnitz on that of ideal, indivisible atoms, which were its power-centers. Both Cartesius and Leibnitz, however, had in their nebulous tendencies a reconciling element in this, that they insisted upon mathematics and physics as the basis of study. Kant, though he urged the importance of experience—*Erfahrung*—concluded that whatever entered into our senses did not correspond with the actual facts, but furnished phenomena—*Erscheinungen*—only. Thus he and his followers, for instance Fichte, relied on intellect—*Vernunft*—as the foundation of science. The latter philosopher arrived at the final result that the external world was only a production of the intellect. Such deductions and imaginations were not without their unfavorable influence on medicine. One of the greatest physiologists of this century, Johannes Müller, even he taught that what we perceive or know is not realities, but only the impressions on the retina or other nerves. Thus it could happen that Schelling, imbued with the philosophical doctrines of two centuries and under the influence of the teachings of John Brown and of the systematic perversion of Haller's "sensibility" and "irritability," demanded that science should be based on and constructed out of the working of the intellect only. Facts were replaced by wanton hypotheses; pathological processes were explained by the not-understood action of the nervous system. What little was known of galvanism and magnetism was utilized in the interest of verbose assertions. "Polarity" between light and gravity, between head and the lower parts of the body, chest and abdomen, arteries and veins, nutrition and secretion, left and right half of the body, were high-sounding words used to cover ignorance and lack of system. It was this food that nourished German medicine in the first forty years of this century, with its crudities, absurdities and pomposities, with words instead of facts, with wild theories and unintelligible phrases, with wanton assertions in place of observations. The diagnosis of those times were asthenia and hypersthenia; exhaustion and perversions of vitality; the gastric, bilious, rheumatic, catarrhal or nervous state; rheumatico-

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catarrhal subgastric fever; gastrico-bilious subnervous fever; gastrico-nervous inflammatory fever. Therapeutics was under the influence of Brownianism and mostly exciting. Haeser relates: In 1798 Marcus, in the hospital of Bamberg, had 480 patients, of whom forty-six had sthenic, 367 asthenic and sixty-seven local disorders. The average medication of every patient was as follows: One drachm of opium, 195 grains of camphor, one ounce of liquor anodynus, 132 grains of serpentaria, 528 grains of cinchona bark, more than one pound of rectified spirits and quantities of musk, naphtha, vitrioli, arnica, valeriana, angelica, cinnamon, tincture martis tonica and elixir roborans Whyttii.

The same lack of intellectual preparation and solidity caused the many theories invented for the purpose of explaining the phenomena of life.

Glisson was the first to look for a common vitalistic influence as an explanation of organic forces; Hoffman sought for it in the nervous system, and called it ether; Stahl in his hypothetical "anima," which was the independent and only principle of life; the followers of Haller in irritability and sensibility, and Cullen and Brown and Rasori in the excited condition mainly of the nervous system. In France it was Sauvages, Bordeu, Barthez and, finally, Pinel who sustained the principle of vitalism, and it was only under the influence of Morgagni, the founder of pathological anatomy as related to the morbid processes in the body, and under that of the slow development of histology, that the three latter began to reason from pathological points of view. It was Barthez who urged that a single vital force was not sufficient to explain all the phenomena of life in the different organs, and attempted a subdivision of the vital force into a plurality of forces, and Bordeu, who observed the structural difference in the composition of organs, thus paving the way for Bichat, one of the great pathfinders in medicine, at the dawn of the new century.

When Haller studied the functional differences in the organs, he found in the muscle, when excited, its capability of contracting, and called it irritability, a term invented

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by Glisson, with whom it means the reaction exhibited by the body under the influence of excitation.

This simple and great discovery was too much for the unprepared minds, who could not understand the imminent connection of force and matter. That is why irritability was supposed to be a thing of its own, an external power which moved the muscle. Nor was this all. The definition of irritability was extended to the rest of the organism; wherever there was action, or the energy of resistance, there was the alleged independent irritability behind it (not in it). As its contrast they established sensibility, that is, the passive exhibition of pain and unrest. These two terms of irritability and sensibility play an important part in the numerous writings which appeared as a mixture of Haller's irritability, Hoffman's nerve fluid and Cullen's neuro-pathology, and treated only of the solid parts of the body. Still, in the latter, it was not its structure and its functions that were considered and studied, but only the two supposed fundamental forces outside them, viz., irritability and sensibility. In this way inflammation and fever were diseases, not of the organism, but of irritability; typhoid fever was an exaltation of sensibility; septic fever the absence of irritability. With minds so obscured by words without contents, Hahnemann found it easy to introduce syphilis, psora and the merely hypothetical syco-sis as the main sources of all diseases. Indeed, this postulate may have been welcomed by many as an escape from the presumed vital forces (which was looked upon sometimes as mere nerve fluid, other times as something superior and external to it, and which was thought to present both irritability and sensibility as the result of a dual "polarity").

It was then that Mephistopheles said in "Faust":

"Just where fails the comprehension
A word steps promptly in as deputy.
With words 't is excellent disputing;
Systems to words 't is easy suiting.
On words 't is excellent believing
No word can ever lose a jot from thieving."¹

¹ Bayard Taylor's Translation of "Faust."

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The quintessence of the immense literature of that verbose time may be stated as follows: The structure of the body cannot explain its functions. The soul cannot explain them. That is why there must be a third, the vital force, which resides in the brain and the nerves. Alone Blumenbach ("Institutiones Physiologicæ," 1786) refused to limit the vital force to the nervous system. Every organ, according to him, with the exception of the blood, has its own life. Alongside irritability and sensibility, he established a plastic, or formative, or reproductive power (*nisus formativus*), and succeeded in reintroducing the neglected topics of nutrition and metabolism into the horizon of medical thought.

But not even he could stem the current of mostly German obtuse literature, which had no room for and no thought of exact observations. It took half a century to re-establish common sense, intelligible terminology and straight thinking into German medicine under the slow influence of French creative enthusiasm, first kindled by Broussais, and of British cool conservatism.

The infected mental atmosphere produced two peculiar systems, the modifications of which claim our attention this very day. They are Mesmerism and Hahnemannism. Mesmer was not always a fraud. His inaugural thesis of 1766 ("*de influxu planetarum in corpus humanum*") betrays a mind clouded by mysticism. In later times he treated diseases not only by the direct influence of animal magnetism, but also at a distance. There is a magnetic fluid in every organism; its existence is the link between different bodies, and thus both physical touch and spiritual influence cause relief from pain and convulsions and produce somnambulism and clairvoyance. In France it was only Paris that ran mad in spite of the adverse report of the Academy; in Germany mesmerism was at once taken up by the thousands of medical men who were infected with the philosophical theories then afloat. Then there was what was called "spiritual concubinage" and "spiritual generation," there was "polarity" between the magnetizer and the magnetized, between the "solar" brain and the "telluric" ganglionic life. Mesmerism always found

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its main apostles in Germany, like spiritism, hypnotism, clairvoyance, Christian faith amongst the mentally inferior classes of modern America. My old ingenious teacher, Friedrich Nasse, in Bonn, while being amongst the foremost to introduce into Germany the exact methods of Laennec, and trying his and my hands on experimentation, still proposed in 1850 that I should go to Holland to treat with animal magnetism a young lady in whom he was interested.

Hahnemann began his career with a paper published in 1796. Within a few years he completed his teachings, the principal of which were as follows:

The only vocation of the physician is to heal; theoretical knowledge is of no use. In a case of sickness he should only know what is curable and the remedies. Of the disease he cannot know anything except the symptoms. There are internal changes, but it is impossible to learn what they are; symptoms alone are accessible; with their removal by remedies the disease is removed. Their effects can be studied in the healthy only. They act on the sick by causing a disease similar to that which is to be combated, and which dissolves itself into this similar affection. The full doses required to cause symptoms in the well are too large to be employed as remedies for the sick. The healing power of a drug grows in an inverse proportion to its substance. He says literally: "Only potencies are homeopathic medicines." "I recognize nobody as my follower but him who gives medicine in so small doses as to preclude the perception of anything medicinal in them by means either of the senses or of chemistry." "The pellets may be held near the young infant when asleep." "Gliding the hand over the patient will cure him, provided the manipulation be done with firm intention to render as much good with it as possible, for its power is in the benevolent will of the manipulator." Such is the homeopathy of Hahnemann, which is no longer recognized in what they call homeopathy to-day. The present apparent heresy is legitimate enough, like most gradual changes. Unsectarian science itself has changed its principles and doc-

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trines until it arrived at the basis of strict observations and well-planned experimentation.

Hahnemann's learning and intelligence made him familiar with the onesidedness or incompetency of all the theories and systems which had controlled the medical market of the century. His new system, announced with ferocity, and appearing unintelligible and crude to a sound mind, could not but impress the multitude which did not differentiate between one bad logic and the other. His contempt for actual observations and experience pleased the ignorant, his violent criticisms of everything preceding him appealed to the unschooled Protestant mind; indeed, he compared his cause with the fight of Protestantism against Catholicism; his very violence tallied with the revolutionary spirit of the time; the mysticism of the medicinal power of a substance when reduced to an unthinkable minimum was a stunning exemplification of the superiority of the spirit over the body; the ridicule and persecution to which his teaching and his vehemence exposed him were claimed as martyrdom.² Thus it happened that he gained not only a foothold, but founded what is called a school exactly 100 years ago, and secured an immortality for his own name and the title he invented for his doctrines, for that title, however, has outlived the practice of his teaching, which began to change and degenerate, and was objected to by those who in the course of generations learned to cling to nothing that was his, except the name.

Theories and systems are not by themselves necessarily harmful as long as they act merely as mental gymnastics. As soon, however, as they are applied to the explanation of actual facts, and claimed as the rules for therapeutical interference, they cripple observation and are misleading. A mere philosophical theory is like a dogma, not by itself injurious, unless applied to realities. Natural facts, medical truths, economic laws are the same whether applied to the adherents of Moses, Confucius, Christ or Mohammed. Even positive religions do not necessarily interfere with science, and science does not necessarily interfere with re-

² Tagel, "Geschichte der Medicin."

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ligions. How little there is to fear from dogma or theory, when the mind is otherwise clear and guided by actual observation, is well instanced by Sydenham, one of the greatest physicians of all times. It was he who laid particular stress on diet, restrained the gruesome medieval medication, limited depletion, and introduced cooling methods of treatment. And here follows his reasoning. For the effect of his treatment he looked in the "smothering of animal spirits, which are the primary instruments of concoction."

Another instructive specimen of the amplication of vitalism with fairly sound judgment is exhibited by Cullen. According to him, who lived nearly to the end of the eighteenth century, the nervous system is the source of life and of all diseases. It is through the nervous system that remedies show their action. Mechanical and humoral forces are of very rare influence. Cullen accepted Hoffmann's division of morbid conditions into spasm and atony. In fever the chill is its prodrome and its cause; the chill is a debility of the brain; the peripherous ends of the blood vessels are spasmodically contracted. In inflammation the essential symptom is congestion into the blood vessels. Amongst the neuroses are the comatose diseases, adynamies, spasms, psychical diseases and topical disorders. Only in scrofula and scurvy is there an alteration of the fluids. His therapy is simple; the drugs act on the nerves, which are either stimulated or weakened.

His pupil, Gregory (1822), without adding much to Cullen's teaching, controlled forever the simplicity and sobriety of English medical thought. While no country suffered more from theories than Germany, England was nearly immune.

Cullen's teaching was followed and sustained on the Continent mostly by de la Roche of Geneva and Paris (1743-1815); who was an out-and-out neuro-pathologist, and in part by Vacca Berlinghieri of Pisa. It was he who caused solido-pathology to take precedence in German pathological thought. Altogether, however, the English practitioners were not partial to theories; their own Brown they left to other countries to go mad over. Chesel-

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den, Benjamin Bell, Fothergill, Pringle, Heberden, Home, were straightforward and cool observers. Currie, after the example of Hahn on the Continent, taught the use of water as a powerful therapeutic agent. Tissot in France, Zimmerman, Quarin and J. P. Frank in Germany, Austria and Italy, furnished good histories of diseases and diagnoses which considered the physical totality of the patient not a single symptom only.

While the eighteenth century was one of theories and of systems, all of which were to pass away, there was also a large amount of practical work. The Academy of Surgery was founded in Paris by Marèchal, 1731, and endowed in 1741 with rights equal to those of the medical faculty. The "Practical School of Medicine" was established in 1738. When I mention the names of the first teachers, Chopart and Desault, the rapid development of surgery in France, and under its influence in Great Britain, becomes explainable. Germany was slow in following; its surgery was inferior to, though influenced by, that of France and England until the middle of the nineteenth century, in spite of Lorenz Heister, Schmucker, Theden and Richter; in spite of Haller, the great and broad man of the century, who taught anatomy, botany, chemistry, medicine and surgery, the latter, however, without the courage to operate; in spite of the foundation of the Charité by Frederick, of the Josephinum by Joseph of Austria, and in 1895 of the Medico-Surgical Frederick William Institution of Berlin.

In the second half of the century obstetrics also made a great stride. It is true that in 1746 the Medico-Pharmaceutical College of Amsterdam prohibited obstetrical practice unless the practitioner bought, at a cost of 2000 florins or more, a secret instrument from the same college. When its nature finally became known it proved to be a simple lever. In 1747, however, Levret described the forceps Palfyn had presented to the Paris Academy in 1723. All that time it had remained unknown. De la Motte and Baudelocque are, beside Levret, the most prominent French, Manningham, Smellie, Wm. Hunter and Denham the most influential English obstetricians. The obstetrical literature

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was very large; nowhere more so than in Germany, where Mittelhauser could boast that while in every labor requiring aid the child was always lost—that was self-understood—he succeeded in saving two out of ten women. How many of the two died afterwards of puerperal fever we are not told. The cruel mortality was finally the reason why obstetrical schools were founded in many German towns. Undoubtedly the midwives thus instructed have contributed to the preservation of many lives. In our time, and in our very country, while the profession's brightest honor consists in its labors in behalf of sanitation and prevention, the teaching of simple midwifery is tabooed by that very profession.

The second half of the century furnishes a large number of monographical publications. The mind, eclampsia, chorea, catalepsy, hysteria, neuralgia, apoplexy, the spinal cord, the heart, the lungs were often treated of. Senac on the heart, 1749, Auenbrugger's *Iventum Novum* of 1761 should always rank amongst the classics; so should Home on croup, 1765, Baumès on *Tabes Mesenterica*, 1788, Wichman on the "Etiology of Itch," who in 1786 drew the *acarus*, Cardogen, 1771, and Grant, 1781, on gout, Huxham, Pringle, Sarcene and Campbell on typhus, Huxham on "*Febris Nervosa Lenta*," and Roederer and Wagler *De Morbo Mucoso*, 1762, both of which were evidently meant for typhoid fever. There are many more whose names a grateful history should not forget, too many to be mentioned in this sketch.

But no sketch ever so brief can miss the name of Edward Jenner. It was on the 14th day of May, 1796, that he vaccinated a boy named James Phipps with pus taken from Sarah Nelmes, a dairy-maid who suffered from cowpox, and in 1798 he published "an inquiry into the causes and effects of the *variola vaccina*, a disease discovered in some of the western counties of England, particularly in Gloucestershire, and known by the name of cowpox."

The most fertile progress in medical thinking was, however, made through new researches in pathological anatomy and histology.

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Morgagni (1682-1771), *de sedibus et causis morborum*, 1761, connected the results of autopsies with the processes observed during life. In the words of Virchow, he introduced anatomical thinking into medicine. It was he that facilitated the labors of John Hunter, who appreciated the significance of pathological anatomy and of experimental research, and established the museum which alone would suffice to carry his name to all future generations. Nor is it probable that without Morgagni, Bichat could have evolved his discoveries, he the solitary histologist without predecessors—Pinel and Bordeu perhaps excepted—and for many decades, even in his own country, without successors, just 100 years ago. His new doctrine coincides with the dawn of a new century. He taught that every tissue differed from the rest in its vital properties; that is why its diseases also should differ from one another. That is also why an organ composed of several tissues might exhibit a disease in one of its tissues only, while the rest remained intact or nearly so. Still in so far as the contact and connection between the components of an organ was intimate, a morbid condition could migrate from one to its close neighbor; for all these reasons pathological anatomy must begin with the discussion of the tissues.

The eighteenth century, with means more limited than ours, with imperfect or no instruments of precision, has accomplished much for medicine; partly conjointly with increasing general culture, partly through the exertion of a few superior men. In this respect science differs from the rules governing the political evolution of the human race. In science history can be made by a single brain; in politics but rarely. Alexander succeeded in part. Not even Julius Cæsar accomplished it. Napoleon, though powerful enough to shake the universe, fiendish enough to murder defenceless prisoners of war, and reckless enough to depopulate his own country, could not do better than extend the lessons and results of the revolution which he aided in throttling. Bismarck, though far-seeing, unscrupulous, inconsistent and brutal, accomplished but a part of what the bleeding and starving youth of 1848 had prepared for him. It is only our country that is so for-

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fortunate as to possess a few men so great that it seems it could not have thriven without them. Washington was of that type; also that fearless, sturdy and uncompromising statesman, the involuntary choice of a reluctant party, whose dignified retirement speaks as loud for his greatness as his vigorous steering when he controlled the helm, unmoved by the waves.

In science single men do make history. So did Paracelsus when he shook off the yoke of Galen, who had reigned 1600 years. So did, towards the end of the eighteenth century, just previous to the foundation of your faculty, Morgagni, when he introduced anatomical thinking into medicine; Haller, when he taught the functions of different organs, mainly the muscles, and discovered the existence of sensitive nerves, and of nerve currents going in different directions; John Hunter, when he established anatomy and experimentation on a sound basis; Jenner, when he laid the foundation of sero- and organo-therapy; Bichat, when he created histology. That is what Virchow did when he fixed the throne of life in the invisible cell; Pasteur, when he demonstrated forever the omnipresence and omnipotence of the unseen microbe. "Narrow is the universe," so the poet says, "when compared with the vastness of man's brain."

The social position of the physicians became much improved during the eighteenth century. In its beginning it was decidedly low. The public at large was not in contact with the few illustrious men who had the monopoly of positive knowledge and of sound judgment, but with the crowd of ignorant, quackish or superstitious practitioners. About 1750 circumstances improved very much, and towards the close of the century the medical profession enjoyed the confidence and veneration of the public to a high degree. Riches they had not, for it is true there were but few physicians who became opulent; still a small income sufficed for a competency. The veneration and confidence, and the influence in all matters, terrestrial and celestial, formerly possessed by the clergy, were now enjoyed by the doctor. The growing indifference in matters of positive religion relegated the clergy

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to the pulpit, to the deathbed and sacred ceremonies, and the absence of the confessional from Protestant countries made of the family physician the father confessor, the adviser and friend in matters physical, mental and emotional. Gradually he also became the adviser of the Commonwealth, for the influence of medicine became more tangible in the interests of public health when forensic medicine and medical sanitation were first written about, amongst other celebrities by J. P. Frank. Thus obedience to the physician became a matter of course, and the appreciation of his superiority self-understood. Even eccentricities in manners and dress and charlatanism, which fostered the belief in his occult knowledge and secret arts, did not hurt him in the estimation of the many, while it is true that through them the better-informed and better-mannered portion of the public became doubters or adversaries. These were sustained in their scorn by what was going on in the profession itself. It is true that only the best informed could appreciate the contradictions between medical theories, and that what Stoll called salvation, C. L. Hofman called perdition; that Brown cursed them all, or that medical books could not be printed in Germany without undergoing the censorship of a university like a Philippino war despatch. But there were things that the plainest mind could grasp. One of the greatest public scandals of the century was the steal of Girtanner's, who succeeded through years to pawn off John Brown's teaching as his own. Then came Hahnemann. He and his immediate followers had a more injurious effect on the relations of the medical profession to the public in this, that they did not present a new doctrine for its own sake, a new system which was to enlighten the world, but a creed like Mohammed's in behalf of which the world, the medical world, was to be fought. The talk of the demagogue and the vile language of the street were his weapons. Books and pamphlets were written in which the laymen were called upon to pass judgment. The attacked party was careless enough to do the same. In this way the laymen were, by both parties, made to believe that neither learning nor experience was required for a complete under-

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standing; that, on the contrary, they would bias a correct criticism. Since that time more than ever before the public knows it all, while the medical man learns by hard work that he knows but little. Since that time the newspaper reporter is the medical authority, and the neighboring lady friend the consultant. A few years ago a great medical editor proclaimed in a daily paper that the young newspaper reporters were the most appreciative and knowing critics of the tubercle bacilli demonstrations.³

The worst enemies, however, of the European profession a hundred years ago were its own members. Their manners were not above those of their fellow-citizens, or as the case might be in different countries, their fellow-subjects. Culture both of mind and heart was a monopoly of a few; the economic and mental distance between the aristocracy and the plebeian was immense. There was no dissemination of at least a minimum of instruction amongst the millions like at present. It is true that teaching the brain need not and does not improve the heart; a ruffian born will never be a gentleman, though ever so thoroughly drilled. The continental medical man of the last century spoke Latin, but he was for all that a man of his century. He was no longer Molière's polite scoundrel who in the consulting-room said to his colleague: "If you let me purge him I shall let you bleed him." He appears, from all we know, and from what we conclude from the copious literature of the subject, rather coarse, self-willed, captious, jealous and noisy. The behavior in consultations between doctors was discussed in books and essays; that very fact proves that it required criticism and correction. I think we in 1899 have reason for self-congratulation when an author who wrote in 1791 declares consultations between doctors to be impossible, purposeless, time-killing, revolting and "lacerating." And in 1783, over his own name (Scherf's Archiv.), famous J. P. Frank advises in all seriousness the calling in of the police to arbitrate and restore order when doctors disagree in their consultations.

That explains why the literature on the relations of

³ Of C. A. Wunderlich, *Geschichte der Medicin*, 1859.

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physicians to each other was very large in every country. Whatever is settled or self-evident is not written about. When good behavior or morals is universal there is no need of preaching or thundering against the contrary. L. Stieglitz of Germany wrote (1798) appealingly and in a gentlemanly strain on the meeting of physicians at the sick-bed and on their mutual relations in general. Percival of England was more practical, inasmuch as he ordained in 1807 a code of ethics which was made the law book of the American Medical Association in 1847. Such a book should be taken as the expression of the best moral instincts and practices of the men superior in mind and heart. It is only after decades or generations, when general culture increases, that men will find their doings gradually approaching or reaching what the intellectual and moral nobility of their profession before them deemed proper and dignifying.

In gentlemanliness, candor, equity, helpfulness, consistency and principle good men of all times and all professions are unanimous. No climate, creed, philosophical school, political party make any difference. Hippocrates, Aristotle, Plato, Aristides, Kimon, Æmilius, Paulus, St. Paul, Lessing, Lincoln followed the same laws, unwritten except in their human hearts and read by their own starlight not visible to the crowd.

To what extent a code diminishes temptation or transgression it is difficult to say. There are no statistical researches to show that those who believe that a gentleman does not require one, and that no law book ever made an honest man out of a degenerate or a criminal, commit more sins than their neighbors.

Looking backwards 100 years we find many reasons for admiration. In all times the main scientific progress was made by individual men, and in a lesser degree only by the army of inferior workers preceding or succeeding them. "When the kings are building, the truckmen are kept busy."⁴ In the eighteenth century physical and mental communication was difficult and slow. There were no tele-

⁴ Schiller.

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graphs and no railroads to bring people together in international congresses or through the "associated press" of science, but there were plenty of jealousies, censorship of books and lack of scientific apparatuses. There was no biological method of study, but there were outsiders with philosophical theories and insiders with vitalistic doctrines. So much the more do we admire the colossal intellects and powerful workers, some of whose names I mentioned, that contributed so much to what we now are and have, and feel in duty bound to transmit to our successors for their eternal work. We have too many advantages in this work not to appreciate them. The greatest I know of is the dissemination of modern methods of research amongst all the members of the profession. In that way thousands are made to co-operate, where a hundred years ago there were a few. It is barely possible that the future will not produce many Bichats or Hunters or Virchows; aye, they may not be required, for those found the paths for us and secured our methods for all times. Besides, where the average size of men is great, the Sauls who rise above their shoulders become less in number. It may be quite possible, therefore, that of those who ornament the medical profession of this and other countries at the present time, very few or none will in a hundred or two hundred years shine through the dim past—simply because so many of the file have risen to rank. The greater the accomplishment of the masses the less is the opportunity of individual stars to outshine the pervading general light. What in former centuries gigantic men accomplished will be performed, I think, by great institutions. Not many individual names may be remembered, but the achievements of Harvard, Columbia, Ann Harbor, University of Pennsylvania, Johns Hopkins and the rest will be enumerated amongst the glories of the coming centuries. Single men may not be the predominant powers, but great societies like yours should and will take their places in history. The totality of great institutions and societies is like nature, always active, always effective, immortal. It is a wonderful mental apparition, this co-operation of a hundred thousand for a common end, that end being science and

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humanity. That is the way in which science will be the example for our political and social future. Like science, society furnishes the history of the association of individuals into a community, of these into a State, of States into the Union. Science, however, is ahead of politics. We do not speak any more of American or German or French science or medicine. They have become cosmopolitan. The illustrious names of England, France, Germany, Italy are our names, as ours are theirs. Scurrilous allusions to nationality and yellow country jealousy which it is true no longer linger amongst statesmen, but are characteristic of low politicians, have no room amongst us. Equality, fraternity and solidarity are inscribed on our flag. We recognize that the work of mankind is not performed by one man, by one country. The great principle for which this Union was hammered out of jealousies and strifes is also that of science as now understood, viz., enlightened, progressive and co-operative democracy.

PRESENTATION TO THE NEW YORK
ACADEMY OF MEDICINE OF DR.
J. D. BRYANT'S PORTRAIT
JANUARY 5, 1899

THE century which will close with this year appears to me the greatest in the history of science. The achievements of its second half—first, Darwinism; second, the doctrine of the persistence and transmutability of force, and, thirdly, cellular physiology and pathology—have secured solid bases for research, established experimentation, organized the kinship of the several sciences, and shaken metaphysics and superstition to their very foundations. With the sounder methods, it was not only science, however, whose parts got into closer contact with one another, but nations also. The greatness of Europe reverberated in America. Simultaneous with Darwin's, Robert Mayer's and Virchow's first labors was the birth of solid American work, not least so in New York, and the foundation of the New York Academy of Medicine. The men who worked in the profession at that time were interested, earnest, well prepared for their labors, many of them well versed in the classical languages, studious, and original. There are very few whom I have not known personally, and a number with whom I was intimate. I know, therefore, whereof I speak. They were not satisfied with what they found ready-made. The literature of those and later days knows their names. While they added to the stores of knowledge, they encouraged those of us who were young. With but very few exceptions they were founders and officers or fellows of the Academy, in whose old bulletins and transactions you will find the imprints of their work.

There were P. Middleton, J. Kearney Rodgers, Alban

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Goldsmith, R. S. Kissam, John B. Beck, Pattison, Gunning Bedford, Alexander Hosack, John Stearns, John Watson, Edward Delafield, John Torrey, John W. Draper, Alexander Stephens, J. Batchelder, Valentine Mott, John Francis, Gurdon Buck, I. Mather Smith, Stephen Wood, John M. Carnochan, John Cammack, Horace Green, and Edmund Peaslee. There were Wm. H. Van Buren, J. R. Wook, William Detmold, George N. Beard, Marion Sims, Alpheus Crosby, E. Seguin, Frank Hamilton, Ernst Krackowizer, Willard Parker, Alonzo Clark, Austin Flint, John C. Dalton, C. R. Agnew, Fordyce Barker, Henry B. Sands, and others.

Why do I recall these names? There are here many who never heard of some of them, or are but scantily informed of the doings and merits of others whose names are more or less familiar. Still, they should be known and remembered as those of our intellectual family and the founders of our scientific household. Unfortunately, the study of the history of medicine, either local or general, and of medical men, is generally neglected. Indeed, I know of no medical school in our country in which the development of the science and art of medicine is taught as a part of the legitimate curriculum. In statescraft no man who had no acquaintance with the evolution of the laws and policy of the country would be considered superior to a vulgar politician; so the sciences require the study of their historical growth by the professional man who expects to be fully imbued with their nature and scope. But, like the political republics which are proverbially charged with ingratitude, so the republic of science as represented in the medical profession is too often unmindful of its past.

Generally, man is so constituted as to require external incitements to serve as reminders. For us, one of these is, or should be (besides our bulletins and transactions which tell the story of our scientific work, and besides our library), this, our building. With it, most of our efforts are intimately connected. From the first beginnings of a permanent fund forty years ago, to our settling in West 31st Street, and our final location in this edifice,

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both with its advantages and its future necessities and possibilities, the history of the profession of this city, and in part also that of the country, has come to centre in this Academy of Medicine. This, our Hosack Hall, should speak both to our memories and to our hearts. The walls are covered with the portraits of many who deserved well of American medicine, of some who rendered illustrious services and became famous, and whose names should be recalled when new ones are added to the list of those who should be honored beyond their terms of office and their lives. In grateful remembrance of the dead, and in justice to the living, friends have agreed to add to the treasures of the Academy as represented on these walls, and to perpetuate for the benefit of both ourselves and of our successors the memory of a strong, gallant and meritorious medical man, by presenting to this institution the portrait of one of your last presidents.

Dr. Joseph D. Bryant has succeeded in a task which probably is more difficult now than it was many decades ago. He has become prominent in the profession. To accomplish that much was easier when the domain of medicine was narrower, and vast minds and vigorous workers could simultaneously control a number of its territories. That is why the array of great names thirty or fifty years ago, when the City of New York and the number of its physicians were but one-fifth part of what they are at present, appears to me absolutely larger than to-day. It is true, besides illustrious general physicians amongst us, there is no lack of meritorious, and dexterous, and even great specialists, but clever practical work does not in itself make the broad-cultured, universal physician. Besides, with the rise of medical science and art, which is in part accomplished by special and specialistic studies, the average achievement and equipment of the average medical man are higher, and to tower above the rank and file of the more than formerly competent professional men requires uncommon capacity and persistent hard work. No contradiction, however, will be offered to me when I say that when the very best names of medical men in this city, or in the country, are mentioned, that of Dr.

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Joseph D. Bryant is one of them. His prominence as a surgical practitioner and author is acknowledged by all; still, in my intercourse with fellow-physicians, I have often been struck with the fact that he was more commonly spoken of in the profession at large as a citizen and a man than as a mere operating surgeon. The multiplicity of his services rendered both to the profession and to the commonwealth is such as to impress the beholder with the multitude of his intellectual and public interests. As Surgeon-General of the National Guard and the Militia of the State of New York through fully twenty years, he had ample opportunities to prove the soundness of his knowledge and the fertility of his mind; as a clear and forcible teacher, he has endeared himself to thousands of medical students; as a Health Commissioner through a long course of service he is known to have introduced reforms and to have elevated the sanitary service and improved the condition of the city, under unfavorable circumstances during unhappy political constellations, and against personal intrigues. And in his presidency of this Academy during his term of service (which would have been extended but for his declining a renomination), and during these two years as a member of the Board of Trustees he never failed to look for the interests of the Academy. Indeed, the first practical steps in the direction of increasing our library fund to one hundred thousand dollars were instituted by him; they were successful as far as the unfavorable financial condition of the community and the impending war cloud would permit.

When he was made President of this Academy the whole profession knew he deserved the honor and approved of his elevation, in the interests of the institution and of medicine. His life was no sealed book, for during the nearly thirty years of his New York activity he had nothing to conceal. I know of none who charge him with selfishness such as reduces medicine to a trade, or degrades politics into a business. No suspicion of unfair dealing has clung to him, and no affiliation ever clouded his impartial mind. Personal regards would not swerve him from the direct path of duty. He was both wise and

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strong enough to be above partisanship. When two years ago he declined a renomination—a step I deplored—his decision was universally regretted, while his motives were not criticised.

In him men would always recognize the correct proportion between his feelings and his actions. He always proved as inventive as he was practical—quick to plan and ready to execute. The directness of his talk we ever knew to be the outcome of concise thinking. Obstacles were often met with, to be quickly removed, no matter whether they originated in circumstances or came from men. Whoever was approached by him knew he had to deal with a straightforward man, too just to do wrong and too strong to take an unfair advantage. Characters like his—direct, manly, and vigorous—are the more appreciated the more rarely they are found in perfection. Those so blessed are born leaders of men, and their superiority is not resented by such as love to respect and to admire *forceful* greatness.

Such qualities enable a man to render benefit to more than a single society or profession. While engaged in serving us and in the daily routine of medical work he did not fail to comply with the demands of citizenship. Many are the instances in which he was and is called upon for advice on public, political, or educational affairs. Well does he deserve the close friendship, known and appreciated over the whole country, of the earnest, sturdy and incorruptible statesman whose services to our republic will be remembered with increasing admiration and gratitude from decade to decade. On the memorable 29th of January, 1897, Grover Cleveland enjoined upon you the duty of an active and general interest and participation in public affairs for the promotion of your country's good in all its phases. Our government, he said, was founded in the faith and anticipation that those who loved it most and were best able to hold it steady would be at its helm. Without this, it would surely go astray. Never did patient need your medical advice more than the body politic needed the watchful care of your patriotic and disinterested citizenship.

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For his services as a citizen, as a practitioner, teacher, and author, and as a President of the New York Academy, Dr. Joseph D. Bryant will ever deserve the high esteem of the old and the admiration and reverence of the young, and the grateful remembrance of all his fellows. Some of them have conferred upon me the honor of presenting to you his portrait.

ADDRESS AT SCHURZ CELEBRATION, MARCH 2, 1899

I FEEL certain that our friend, whose unselfishness and indefatigability in the interest of our commonwealth and of mankind are surpassed only by his modesty, would, in spite of his well-known courage, be overawed by this celebration of the achievements of his life; being present at the enumeration of many of the merits and deeds he cannot escape that feeling. Whoever knows him well, is aware that the more he will be extolled, the more he will suffer. That is why, in order to alleviate his distress, I propose not to speak of him, but, for a change, of myself and of some reminiscences of my own. For that purpose, you will permit me to take you back the trifle of half a century. You did not think he was as old as that, but he is.

In the year 1848, when J. K. Polk was President of the United States, Wisconsin was made a State, the Mormons went into exile around the Great Salt Lake, when the Free Soil party was founded and gold was discovered in California, Italy began to shake the chains forged by its own many rulers or the Austrian foreigner; the Hungarians threatened the gates of Vienna in their efforts to gain independence; Louis Philippe hastily left his throne and his country; Frederick William the Fourth shook and trembled; the German Parliament began its short-lived career, and Czar Nicholas stood aghast.

The revolutionary wave rolling over Europe affected all classes of Germany. Many feared, more hoped, and the best part of the nation stood up in arms, to fight against absolutism and for the idea of unification. Naturally, it was the youth of the country, and principally the educated youth, with the ideals of Roman valor and of Hellenic philosophy inculcated and working in their minds, who caught the enthusiasm of the occasion.

The universities, while furnishing their volunteers to

fight on the barricades and others to secure the Germanization of the Northern provinces, sent delegates to a Students' Congress to the Wartburg, which had long been the poetical symbol of German strength and poetry. When our delegate (I was at that time a student in the University of Greiswald) reported to us the enthusiasm pervading the first congress of young men, and the earnestness and vigor displayed in their meetings, amongst the names he mentioned foremost for their attainments, idealism and faultless eloquence, was that of Carl Schurz of Bonn. That was my first acquaintance with him, who at that early time was characterized by our spokesman as the knight without fear and without reproach.

In the early part of '49 his name reached me when in Göttingen. After perpetual mission work in the service of the revolutionary idea, he and Professor Kinkel, philosopher, poet and orator, planned an attack on an arsenal, were unsuccessful and fled to the Palatinate and Baden, where revolution had arisen to protect the endangered German Parliament against the armies of conquering Prussia. To meet him I found impossible, for the police gobbled up everybody whose views were turned to the South. I could but follow his career from battle-field to battle-field, and finally to Rastatt, where, in July, '49, the bulk of the revolutionary army was caught in a trap. Many of his comrades were then shot, amongst them students, savants, army officers, government officials, members of Parliament. His friend and teacher had been caught and was landed in State prison, as they thought, for life. He found his way through a subterranean sewer, from the belly of the fortress to liberty.

Meantime, we who were in our precarious homes, heard of and from the exiles, in Switzerland, France and England; of him always in the glowing terms of appreciation and admiration; and he was uppermost in the estimation of his fellow refugees. I give a single example.

One hot summer afternoon, with a knock at my third-story door in Bonn, there entered a big hand knapsack with a pair of shoes sticking out. It was carried by what looked like a travelling mechanic. The tramp had hollow

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cheeks, big whiskers, was begrimed and fatigued, no shoes on his feet, a big cane in his hand. I knew that ilk; he wanted a bed for once and food and safety. My first question, "Who are you?" was answered "Schimmelpfennig." Some of you may remember his name as that of the Brigadier General who, under Sherman, was the first to enter Charleston. He had been a leader on the battle-fields, was an exile and now an emissary in what was to us a holy cause. That is the way Mr. Schurz's friends skulked and starved at that time. Fifteen dollars, Mr. Treasurer, would have been a bloated competency for fifteen weeks. His first question was "Heard of Schurz?" "No." "Will soon hear of him." A few days after he had left, his hunger being appeased and his safety becoming doubtful, I received notice that a stranger wanted to see me, after the setting of the sun, in an out-of-the-way summer-house in a friend's garden outside of town. There I found a tall, curly, jovial, easy-going, serious young fellow, with eyes at once open and searching. What he had to say I learned; what he concealed I did not ask; but before I left him to his solitude I well remembered what my Greifswald friend had said of him. A few weeks after I met him by accident on the railroad, both of us going North, I to the seat of war in Schleswig-Holstein, he in the direction of Berlin. I could only tell him "look out," and he did look out and far ahead.

What this trip meant, I shall tell you. His teacher and friend Kinkel was a prisoner for life in Spandau. The philosopher, poet and orator was spinning wool in the service of the Prussian monarchy. After long preparations, Schurz got him out of the State prison and took him, after a journey replete with perils and anxieties, to the land of the free Britons, the refuge of the persecuted of all lands. That daring feat has immortalized him in the popular annals of Germany. Miraculous it was. Nothing that ever became known of the real facts could convince the poetical fancy of the German people that the salvation of Kinkel was else but unaccountable. There was a young Siegfried who, in the midst of the beaten and despondent people, attacked the dragon of the Prussian

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police and slew him; as Blondel's song got the lion-hearted Richard out of his dungeon; so Schurz, the legend goes, made his presence known by turning a street organ, grinding melodies known to and appreciated by Kinkel. When all that Carl Schurz has been or done will no longer be remembered in all its particulars, the millions of Germany will rehearse the legend of the young hero who stepped into the lion's den and delivered his friend out of the clutches of cruel dungeon keepers. The myth is alive, as it was fifty years ago.

Meantime, it was revived by his occasional appearance on German soil. Before what they called an amnesty for us was thought of, there appeared in 1861 in the German newspapers the official notice that the United States Minister to Spain, Mr. Carl Schurz, would pass through the country on his way to his American home, and the police was warned not to disturb him.

Another time the papers and the people would relate with hushed exultation how the irreconcilable revolutionist was hobnobbing with Demagogue Bismarck and with the Crown Prince, now Emperor William.

After his final escape I heard but rarely of him, and for a short time only; but as there was no man or woman in any walk of life but adored him and tried to know all about him and rehearse his past, so the only news a State prison conveyed, and whispered to the lone political prisoner in his little cell, was that Carl Schurz was in America, that longed-for republican paradise; that personification, we fondly imagined, of Rome and Hellas combined; and there I shall now leave him.

The myth of the millions of Germany to you, to us, he became and is real. What he has been to this our country is contained in the history of our last forty years, and will be alluded to by more eloquent speakers. I know he would rather be absent as he was spared being present at the celebration held in Berlin last week. As he is modest, however, so he has often proved his endurance. In that spirit he should endure this evening, and remember that its main object and outcome is not so much personal as it will prove a lesson to the people, and princi-

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pally to the young generation, who have to learn that a man who has no riches, no longer a political place, no trust to sustain him, no newspapers to do his bidding, no machine to grind out his orders, can still be, or rather is, for that very reason, uppermost in the admiration and reverence of the best men of the nation; feared, it is true, by many, and loved by many more, both for his own sake and for the enemies he had to make, and respected by all.

The toast called for the consideration of the storm and stress period of Mr. Schurz's life. Still, either there was no such period, or it lasted all his life, for it has been spent in fearless and incessant combat, on the battle-field, the platform, in the councils of the nation, in literature, always in the interest of his ideals.

There is surely a peculiar harmony in the lifework of this man. In adolescence the combats of his life are set in one direction; no magnet was ever powerful enough to cause a deviation. A clear brain, a warm heart, the knowledge of his duty, the appreciation of what was right, the unselfishness which sacrifices one's all to the commonwealth, the incorruptibility by what would be a temptation to any but the godlike amongst men, have made this celebration possible, and the offer of this homage of men known to all America, all parties and of opposing opinions. They will be received by him with grateful earnestness, I know. Encouragement he needs not, for nobody has known better than he and taught all his life that, though it suffices for the average individual to do no wrong, he whose wagon was ever hitched to a star must perform the ideally right. He knows his immortal Plutarch, and perhaps what he says about Aristides.

Admirable was the mental equilibrium of the man in all changes of his public relations. He never was proud on account of honors, and remained tranquil and self-possessed in the midst of provocation and insults.

He has always deemed himself under obligations to his country, and declared he owed it his constant zeal and worked for it without pecuniary advantage, or honor or expectation of reward.

ADDRESS DELIVERED AT THE COMPLIMENTARY DINNER TENDERED TO DR. JACOBI ON HIS SEVENTIETH BIRTHDAY, MAY 5, 1900

I WISH I could proceed from man to man and in silence press your hands, for words of mine do not suffice for the throng of feelings that swell my heart. Before me I see men in all high walks of life, members of my own and other professions; I see statesmen, poets, university professors, and presidents—to me this illustrious assembly is a university indeed. Of medical men there are at least two generations, few though of mine, but many of my own pupils, who long ago became my masters and my teachers.

Occasions like this, which is unique in its brilliancy and scope, are apt to try a man's soul. Your appreciation and applause is elevating and encouraging, but there is an element in it of a sorrowful sense of humiliation and discouragement, inasmuch as I believe no man can be, and I certainly am not, conscious of deserving them to the degree they are tendered. I take it for granted that I am expected to speak, in part, I suppose, of the topic of the evening—myself. But how, and what? I have been eulogized as if I were dead. Not being quite dead yet, I should not join in the praise. On the other hand, to speak derogatorily of my doings would be discourteous to those who expressed their good opinions. If, after all, you will be content with hearing a plain talk on some of the things that happened to me and to the profession this half century, I shall consider it an honor to be listened to.

When I speak to you of my aspirations on my arrival here, nearly forty-seven years ago, I probably say nothing new to those who once found themselves in a strange world, ignorant and not known, without relatives or social in-

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fluence. I wanted, both from necessity and from impulse, work in my profession. Young years had ripened in me the ambition to be useful either to the individual or to the masses. This is what had led me into the political life of the German revolution. I wanted to be useful to the sick, and in order to reach that aim strove to reduce my ignorance, which, aside from being a natural gift, was vastly increased in the wasting idleness of years in a Prussian state prison. When I came here I knew nothing of American medicine. It was simply unknown in Europe. Nor was America much better informed in regard to European medicine. With the exceptions of a few translations from the French and a number of English republications,—called American editions,—European literature was but scantily known and appreciated except by the few who, like Jackson and Oliver Wendell Holmes, had enjoyed the opportunities of being with that great master, Louis. I felt I might help in building a bridge between the literatures of the two hemispheres, and Stephen Smith took my first extracts. That office was rendered more unnecessary from year to year. European languages and literatures are more studied amongst us now, and personal intercourse between the two continents is easier and more frequent; so frequent indeed that there are voices that seem to advise against our young men going to Europe to embark on post-graduate studies. That advice is to be deplored. I should improve it by advising Europeans to come here for that purpose. The more the languages that are studied, the wider the horizons that are scanned, the more different the methods that are learned in medical pursuits, the more a man, young or old, will become a world to himself. By such exchanges Europe has learned, will learn, to respect us as we admired Europe.

At an early time, long before the foundation, in 1857, of the German Dispensary, the first medical institution in New York in which German-born physicians began their co-operation with American medicine, I took an interest in the physiology and pathology of infancy and childhood. Was it the helplessness of the patients, the apparent or alleged difficulty of the subject, or its neglect in American

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literature, or all three of these reasons, that made 'me take hold of it, I cannot tell. But it fired my heart and imagination to suppose that if I labored for that honor, the history of American pediatrics would possibly contain *my* name among, as I fondly hoped, many more. Beyond that my dreams never went. I could not believe, nor do I to-night, in spite of what has been going on here, that, as Heine has it, my name should ever be mentioned among the best. But what I know from the history of the subject is this, that after the foundation of the first special clinic for the diseases of children in the New York Medical College in 1860 and in the University Medical College in 1865, such clinics increased in number, so that there is at present no large medical school without one. A very prominent part of our good medical literature is pediatric, and there are two journals exclusively dedicated to the diseases of children, some full professorships have been established, and the teaching, mainly in New York, but also in Boston and Philadelphia, has in part become bedside instruction.

Much credit has been given me, I know, for the rapid development of pediatrics in this country. It is true I have the doubtful advantage of having been born in advance of my collaborators; but the time was matured for the new birth, and it so happened that many of the best medical minds of the nation became interested as I had been. Besides Stewart, Eberle, Meigs, hard-working, painstaking and honest J. Lewis Smith should not be forgotten. History, indeed, is not easily made by individuals, for a Washington is not born to every century or country. Not even a Bismarck could have moulded Germany into one nation if it had not been for the preparatory labors of previous generations, that of the revolutionary youth of 1848 included. Nor could a Johns Hopkins create what we now know Johns Hopkins University to mean, without the constant and conscientious co-operation of great men whose names are on every lip. It is true, however, in science alone, single men *may* make history, as pathfinders and organizers, but the tribe of Paracelsus, Morgagni, Haller, John Hunter, Bichat and Virchow is not numerous.

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So you see that I have been most fortunate. A large family of brilliant pediatricists has grown up around me, both in private practice and in official positions. Through them, to a great part, clinical teaching has become the acknowledged means of medical instruction, though in most of the faculty-frames their branches are still considered inferior to what is called a full professorship with didactic teaching. On the other hand, pediatrics is, by force of circumstances, given the very highest rank, for instance, in Columbia University. It recognizes the necessity of postponing special pediatric teaching to the fourth year; that is, after the young men are deemed to be fully prepared and capable; it also considered itself lucky when the generosity of an unknown donor enabled it to establish a pediatric ward in Roosevelt Hospital for bedside instruction.

Unknown donor! More unknown or known donors are wanted. A single half million dollars will suffice to build and endow a child's hospital of fifty beds. When that will be accomplished, in connection with a medical school, then, and then only, will Columbia, or any other university, be able to supply the Commonwealth with doctors who had ample opportunities to study the diseases of infants and children who will always form the majority of their patients. The race of Vanderbilts, Carnegies, Sloanes, Ottendorfers, Woerishoffers, Seth Lows, Paynes and Pierpont Morgans cannot possibly be extinct.

In 1853—I speak of what I have seen myself—the medical schools had the most accomplished teachers, and to a large part the most immature students. The teachers were mostly men of national reputation; many of them were instructed in Europe, most of them had enjoyed a classical education. Matriculants, however, were admitted, as well from the plough as from the college, and no questions asked. The curriculum extended over two years, was almost exclusively didactic, the professor would teach the same subjects annually, and clinical teaching was in its embryonal stage. There are those here who remember that time, and also the lengthening of the course to three and finally to four years. Clinical teaching I have seen extend-

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ing until, together with obligatory laboratory work, it bids fair to assume the leading part in our instruction.

In that way we imitated, but did not reach, Europe. It takes some time to get so far. We were a young people, and where the plough was required to sustain our lives, the microscope, with its scrutiny of the almost invisible, had to wait. Our scientific institutions were not endowed, and had to serve immediate practical ends. Laboratory workers could but rarely be paid, for lack of funds. But now, and for some time past, well-to-do men go into medicine for love, and not for money. They invest their own in their pathologic, biologic, histologic or chemic labors, and as good citizens of the Republic are satisfied with the interest their investment will bear to the domain of science, in the service of humanity. Medicine, like politics, will be purer for the money put into it, instead of taken out of it.

In still another respect I have been most fortunate. While pediatrics has become the subject of special study, and while there are even those who restrict their practice to infants and children, there never was the tendency to set it up as one of the narrow specialties. In regard to them many changes have taken place. During my own early life, I have seen a meritorious man whom I much admired, Horace Green, persecuted and derided because he paid what was considered too much attention to the larynx, perhaps also—who can tell?—because he knew more about it than all the rest; and while getting older I had to observe, first in Europe, then with us, the tendency to exaggerated specialization, which has contributed much to narrow the scientific, mental and moral horizon of many a young man who means to become a wealthy and famous specialist, without ever having been a physician. I know of no pediatricist with that turn of mind. To study and practice a specialty should not mean to cut loose from medicine. It is not in vain that the fourteen great national special organizations feel the good there is in consolidation in a triennial Congress.

In regard to our medical schools, it should be remembered that, with few exceptions, all of them were at one time, and most of them are still, private institutions. An

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intelligent American audience need not be told that vanity, avarice, territorial pride, professional jealousy, had a good deal to do with the mushroom growths. St. Louis and Chicago had at one time, and have perhaps to-day, thirty medical schools between them. That is why professors are as numerous as crab-apples and plain doctors are scarce, at least in large cities. I am certain I express the opinion of all here when I say that medical teaching will be better, and more uniform, and more in accordance with the requirements of the public, when our one hundred and fifty schools will have been reduced to twenty-five, and each of them will be connected with a university as its medical department.

At the same time, in 1853, American medical literature was in its beginning. It is true Drake had long before written his "Principal Diseases of the Valley of North America,"—an immortal work. Holmes had proclaimed the contagiousness of puerperal fever many years before Semmelweiss; but such great achievements were few. Original books were scarce. Some of our few journals were of the best. I mention the honest, scientific, and conscientious *Journal of the Medical Sciences*, and the always noble and refined *Boston Medical and Surgical Journal*. There were in New York the *Journal of Medicine*, which has since been transformed into the *New York Medical Journal*, and the prototype, alongside the *Boston Journal*, of our present weeklies, the *American Medical Times*. And now, in 1900! Your literature is as well known to you as to me. Let me speak, therefore, only of our more than 300 medical journals. That some represent the finest flowers of intellectual research and keen observations, many more, however, the choicest rubbish accumulated by phenomenal ignorance and advertising impertinence, is simply a sad fact. Reduce them to forty; these forty will have a larger market, may be able to select their contributions and to pay the contributors, while at present they enrich the publishers only. The larger markets will enable professional men or corporations to follow and improve upon the example of the *Philadelphia Medical Journal*, and at least strike out for independent action, and finally found an independent

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press, not relying for its sustenance on the advertisements of proprietary articles, whose principal element is the barbarism of their names, or on so-called original papers which bear the unwritten signature of nostrum manufacturers on every one of its bold and shameless pages. Gentlemen, it is time things should take a turn. There was a period when they asked: Who reads an American book? American books are now read the world over by privileged men, and even translated. Verily, verily, the time should come speedily when they will ask: Where is the ignoramus that does not know American literature?

Twenty years' exertion before the legislature on the part of the medical profession—not of the schools, some of which were opposed to progressive movement—has at last resulted in the demands of a minimum of preliminary knowledge before matriculation, and, further, in a law according to which the license to practice depends on the result of a State examination for citizens and foreigners, that is not controlled by the medical schools. The law, in its fear of improper influences, has even, incorrectly, I think, excluded from the board of examiners whatsoever is in any way connected with a teaching faculty. In all these successful endeavors of the rank and file of the profession, I lent my hand. If there be any merit in my so doing, I claim it. For though a college professor, I saw the mistake of the schools that combated the inevitable progress on account of alleged but misunderstood interests, and kept intact and sacred my allegiance to the great profession in which I started, and in which I hope I shall remain to my last hour. With another step in the evolution of medical teaching I have much less to do than I could wish; for the growth of post-graduate schools has not only disseminated modern knowledge and methods among the established practitioners, but also started an impulse in the undergraduate schools to arrange for post-graduate courses.

Medical societies have grown in membership, numbers and influence. But latterly their number has grown so as to justify the suggestion that there is no blessing in the multiplicity of names, inasmuch as new societies have to

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recruit themselves either from the members of older ones, or to look for candidates among the young men, by more or less scrupulous canvassing. There is more strength in forceful consolidation than in fanciful expansion. Besides, it is a matter of sincere regret to many of us to note that the spirit of unfriendliness should not be buried forever, and that now and then personal vanities and grievances have the better of common sense and justice, and of the professional welfare. Many years ago one of the societies—the orthopedic—gave up its separate existence to become a section of the Academy of Medicine; there are some others that would be more useful than they are even now by taking a similar step.

Within the time I speak of that Academy took wondrous strides. I knew it in a small room in the University, at Washington Square; then in West 31st Street; and I love it in its present palace, with its ever-increasing public medical library, the second in importance in the country; its impartial, non-political interest and co-operation in all public sanitary questions; with its labors in matters of quarantine, cholera and watershed; with its generosity to members and non-members alike that is so recognized as to provoke callous abuse; and with its ten sections in constant working order. They have given the young men, during now more than a dozen years, the opportunity for legitimate competition, for obtaining a hearing, and making their reputations. Ask them, and they will tell you that their growing renown—next to themselves and their honest work—is due to the possibilities afforded them in the New York Academy of Medicine. May its shadow grow forever!

During a long life I have seen more. Hospitals were built or enlarged, dispensaries and similar places established to such an extent as to justify anxiety about, and the battle against, the abuse of medical charities. Personally I have always seen, and still see, a great danger in tempting people to demand and take gratuitously services they can and should pay for. The gradual undermining of individual honesty and responsibility will prove a nail in the coffin in which republican institutions, founded, as they

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are, on equality, mutual obligations and probity, may some day be buried. The impulse given by the profession has also resulted in the foundation of the Willard Parker Hospital, which should have been one of many, and of the Minturn Hospital; in the improvement of the factory laws referring to children, in school inspection, which should be more comprehensive and more influential than it is; and in ridding the people of part of its quacks. How difficult that office is, and how serious the danger connected with it, in spite of the persistent and well-directed efforts of the New York County Medical Society, can be appreciated only by those who know the extent of quackery in all classes of the public, which pays two hundred millions annually for proprietary medicines alone, and the sympathy it meets even from the alleged spiritual heads of mankind. Says Herbert Spencer: "The incorporation of authorized practitioners has developed a trades-union spirit, which leads to jealousy of the unincorporated practitioners, that is, the irregulars." In the solitude of his study, and communing with himself, he did not learn the needs of the people and the necessity of protecting their health against their own ignorance and prejudice, and of offering them unadulterated and unselfish science and art, as you feel bound to furnish them pure food and water, sometimes, or often, against their will. There are but few of us that have a high opinion of the discernment and discretion of a large part of the public. For there is too much clairvoyance, Christian lack of science, medical sectarianism and medicine-chest quackery, and too much dilettantism amongst our well-clad and well-fed, semi-instructed, but uncultured and mentally unbalanced classes.

Meanwhile, the profession, and I amongst them, have plodded on. Untold thousands have arisen this half century of mine, or passed away. There were the wage-workers, the teachers, the pathfinders. There were those who fought disease or epidemics bravely and survived, or those who died in a single task and left their small children hungry. It is true, the time has passed when the doctor was killed when he lost a patient. That is different now; we are more civilized, we are satisfied with murdering his good

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name. There were, there are, only few that gained repute, local or national. If some did, it was not always to their advantage. Harvey and Gall, like many others that worked for science, lost their practice and livelihood; still without them there would have been no Bichat and no Virchow.

The brave physician's work was always hard, for it is as difficult to save one life as it is easy to kill a thousand. That is why I cannot feel enthusiasm for the doctor who is occasionally puffed for leaving his humane work to participate in the killing, nor for the injustice of history, that mentions a thousand generals to one physician.

Some of what I have said may be objected to. But I know that the views I expressed were mine always, and are not engendered by advancing age.

What, after all, is age? The boundary line between the young and the old is not, I take it, in the bald head or the gray whiskers, but in the change of a man's ambitions, motives and purposes, and of his relations to the world and *its* ways and aims. It is true that I have been told even to-night that I am seventy, in the pleasant way that you have of showing your condolence. I can bear it as long as those not so old as I am accused of being treat me as their equal and call me young—for an aged man.

Now, may I betray to my younger colleagues—I like to talk to them—how I succeeded in getting along with my age and with the young, and remain, as many say, one of them? By arranging and gradually developing a life programme, I tried to learn from my books, my patients, and my colleagues, sometimes even from midwives and old women. Ambrose Paré admitted that he hated quacks only when they could teach him nothing.

I think, also, I did my duty to my patients and colleagues. In accordance with my democratic schooling, I was fortunate enough to have respect for the individual. That is why I found it easy to imagine myself in the place of a patient, and to spare his feelings if I could not preserve his life. Where you cannot save, you can still comfort. I never told a patient he had to die of his

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illness, and hope I shall never be so careless or so indolent as to do so in the future. The magnetic needle of professional rectitude should, in spite of occasional deviations, always point in the direction of pity and humanity. Another lesson I learned early was this, that my patient had to be treated, and not the name of his disease, and, also, as my illustrious medico-poetical friend proclaimed in Washington a few days ago: "'Tis not the body, but the man is sick." My medical education dated from a dangerous era. Symptomatic diagnosis had been replaced by the anatomic. Rokitansky and Skoda cared more for the dead bodies than the living convalescents; the former proclaimed loudly that the only thing scientific in medicine was the autopsy, and the nihilism of Vienna was that time's modern therapy. You and the patient met only twice—first, when you made the diagnosis on his case; second, at his autopsy. Fortunately, in F. Nasse, I had, fifty years ago, a teacher of unadulterated humanity, combined with all the scientific eagerness of his mental youth of exactly seventy years. From him also, though he was not a democrat or a revolutionist, I learned the sacredness of individual right and life which I have never ceased to respect. Thus I learned two things: First, never to let up in my care of individual life when entrusted to me; secondly, that no single political or religious creed ever owns, or controls, or interferes with the dictates of humanity and common sense. Man is above theories or creeds.

Further, my young friends, I never thought I owned my patients, and never grudged my colleagues *their* own. I never shrugged my shoulders when they were well spoken of, and did not believe my reputation suffered when they were eulogized. I always preferred that patients should come to me, to running after them. When a patient left me for some other doctor, I may have felt chagrined, but I did not blame the doctor he called in. When a doctor robbed me of a patient by hook or crook, or both,—such things do happen, I believe, even now,—I was sorry for the doctor and for the profession, and glad I was not he. To compete honestly I think is easy for a gentleman; to bear dishonest competition should be easy, but it

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worries. Not to take honest competition on the part of others kindly, shows disregard for the rights of others, either doctors or patients, and bad citizenship; or it proves premature old age, with its occasional avidity and venomous jealousy. Now, morbid bitterness of old age, of which we hear, I have not experienced as yet, and if, or when, it will come with the increasing atherosclerosis of my brain arteries, I wish and trust somebody will tell me. There are, besides, a few tricks of mine which prevented both my brains and heart from getting altogether too rusty. There was a time—very long ago—when I was the youngest everywhere. When I got bravely over that, I always kept in touch with the young, either students or colleagues, or writers. Literature is always young, students and colleagues sometimes too much so. But they suited me exactly, for they kept me in touch both with my former self and the new era. Mainly in the last decade or two, the young men were compelled to learn many new things which, though Leeuwenhoek two hundred years and Henle sixty years ago saw the holy land from afar, could not have been believed possible by a Sydenham, or Boerhaave, or Haller, or even Bichat. We older men are either behind the time, or we have to unlearn much of our dearly-bought stock, and to learn with the young men, or from them. To the young amongst you all, particularly to my own accomplished assistants, both in private and official positions, I here express my thanks, not only for the direct instruction I have received from them, but for the inponderable intellectual and moral influence the intercourse between intelligent creatures must always exert. Then there is another trick. When your anger arises within you over some unjust thing, be not afraid of showing the blush on your face; when an iniquity is perpetrated, resent it. Be not afraid of slapping the cheek that deserves it in private or in public. Personally I hate enmities; they always fretted and worried me and gave me sleepless nights; but I never was afraid of the enemies I made as long as I fought the battle of professional or civic decency and dignity. If there be a bad, or a ludicrous, or a dangerous man, and if he feels offended by my telling him

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of his misdeeds and my trying to protect the profession or the community against him, here I plead guilty, and I shall do it again forevermore. When I shall stop, then call me old.

The facility of obtaining a diploma and the license to practise, formerly greater than now, has so filled the profession with undesirable men and women as to crowd the ideal, as to what the physician should be, to the wall. It is only with the growing difficulty of matriculation and increasing severity of examinations that the number of underweight doctors becomes smaller. With this increase, and with growing competition, the methods of obtaining a livelihood in every business and vocation become more doubtful. That is why the morals of the profession have been subjected to a most severe strain. Moreover, the commercialism, which is the signature of the end of our century, has invaded industries, arts, science and the professions more in Europe—as I could easily prove—than in America.

This superiority of the moral tone in our American profession is due to the innate pride of our citizens, and has certainly been commemorated or preserved by the teachings of the code of the American Medical Association. So settled is that habit of modesty and pride amongst us that when finally we resolved in the Medical Society of the State of New York that no law-book was required to guide our methods of intercourse, the observance of the rules valid among gentlemen became even stricter in the profession of the State of New York than ever before. Still there *are those* who are infected with the meretricious spirit of the times and think they cannot wait for success. Indeed, no profession should expect to be exclusively composed of men of stern character and incorruptible probity. The methods of reaching their ends are, therefore, as the case may be, those of vanity or obtrusiveness, now and then of dishonesty.

Those of us, however, who crave notoriety in the belief that the majority of the public have as little brains as fish that take every bait, will meet reporters at the bar or in the sacred concealments of their offices, get into the

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newspaper columns with their wonderful electrical discoveries, miraculous cases, unheard-of operations and long titles, the least of which at present is "professor."

In the words of a great cynic: "What are you going to do about it?" There are those whose egotism and vanity are not controlled by any regard for the public good and who are acrobatic experts in the art of keeping on the fence between honorable professional behavior and shameless quackery. If they knew how ludicrous they are, and how pitiful they appear in the eyes of the honest crowd about them, they would do better. And here is a word to the young. I am afraid we old men are past changing, but it is a failing in our national character to be always cordial, always courteous, always hand-shaking. We do not identify the sin and the sinner; we abhor the former, and are too good natured to shun the latter. If there be a danger to our morals and our politics, it is there. If you, the young men in the profession, will refuse approval and honors to men whose actions and methods you condemn, if you will only show them that your heart is chilled against them—some of them are in public positions—there will soon be an end to offences which need not always result from wickedness, but from bad taste only. There are those, indeed, among the vain who fear the display of bad taste more than the perpetration of sin.

After all, however, when I look backward, I really do not believe that the moral tone of the profession is lower than circumstances necessitate in this period when trade is everything. There were jealousy, strife, and competition at all times, and men were always human. The "good old times" is an ideal that, while its consummation is too far ahead or beyond the horizon altogether, is searched for backward. Doctors were always what their time, their people, their surroundings made them.

The mutual relation of physicians I have seen improving during my own time, that is, within half a century. One century ago, the literature on the behavior of physicians toward one another was very copious; evidently the need of it was great. At that time consultations between doctors were declared by a well-meaning writer to be im-

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possible, purposeless, time-killing and "revolting," and as late as 1783 the famous I. P. Frank advised seriously to call in the police to arbitrate and restore order when doctors disagreed in their consultations. That was only a century after the polite scoundrel of Molière proposed to his colleagues: "Let me bleed him, and I'll let you purge him."

Not very long before my time the amenities of professional intercourse cannot have been very great, when Lisfranc called Dupuytren the butcher of the Hôtel Dieu, and Dupuytren dubbed Lisfranc the murderer of the Charité. One of the later publications on the mutual relations of doctors was that of Percival in 1807; it was made the law book of the American Medical Association in 1847. My illustrious friend in Washington, Dr. S. C. Busey, who upholds it as a necessity, still proclaims that the rule forbidding consultations with sectarian practitioners altogether should be modified as to permit them in cases of emergency. That is what the Medical Society of New York made its policy in 1882. It was a number of years afterward that the code was abolished altogether. As far as I am personally concerned, I am still of the opinion expressed years ago, that there are no statistical data to prove that more sins are committed by gentlemen without than with a written code.

On the other hand, I cannot see why whatever differences there are between those who adhere to the code of ethics and those who believe in and act on the same principles could not be easily adjusted. Books are made for the use of men, by men, and no fires are lit any more in this country under the impression that differences of opinion can be killed like human bodies. The spirit does not burn like flesh. Why differences of opinion as to the indispensability of a written code should lead to animosity to such an extent as to preclude the possibility of a peaceful discussion, I have never been able to conceive.

What, indeed, does all the discord amount to? The whole profession agrees about the inadvisability of consultations, in the very interest of the patient, with a certain class of medical men, in the average case of illness. In emergency

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cases such consultations are permitted for reasons of humanity by both parties of the profession. One of them bases its action on the written code of ethics, the other deems a written code unnecessary for its guidance. It is my opinion that our successors will hardly believe we ever were serious men when they learn that the enlightened and public-spirited profession could go to war over differences of motives and methods when the end in view was the same.

Mr. Chairman, I have been, more than I deserve, praised as a physician, as a teacher, as a citizen. My own remarks referred mainly to the first, for I am proud of the profession to which I belong.

The members of the profession, individually and collectively, have always proved themselves good citizens.

They do not, I grieve to say, take much personal part in the politics of the city or country, but whoever knows the exhausting life the medical man is leading cannot wonder that we are not often seen in the political arena. This is deplorable, and my word to the young is to lend a hand to this country of their birth, or of their adoption, for it is in America that many political, economic, and social problems will have to be solved. In every other respect there is no man that gives more and gets less than the physician. And the profession at large?

There is no interest connected with the life and health of the community that was not fostered by the coöperating physicians. The sanitary commission of the Civil War contained illustrious names like Agnew and Krackowizer. Physicians know best or feel most intensely that a people stricken with poverty and ignorance, and decimated by preventable sickness, should be deemed an anachronism in this century, and that, as Virchow expresses it, every epidemic is a warning that should teach a statesman that there is a preventable or curable disorder in the organism of the commonwealth. Unfortunately it is too often true, what Anarcharsis said of Athens, that the wise men do the talking and the others the ruling. If that were not so, it would seem impossible that a quarter of a million asked for, in behalf of the establishment of what is to be

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at the same time a life-saving station and an instruction camp, should be refused, while a million a day is spent on destruction; or that an appropriation required for the solution of problems connected with the mental health and disease of tens of thousands of our fellows should be withheld. The battles against prejudice, shortsightedness, and incompetence are always found by the medical profession, which unfortunately is too often not consulted, and *that*, gentlemen not of the medical profession within the hearing of my voice, is what binds us together and renders us proud of one another, with that altruistic unselfishness which is our sacred egotism. To look back upon a life spent in that profession is my greatest satisfaction, and to know that no changing influence of the day is able to divert the profession from its manifest destiny and plain duty of being and remaining the teacher and protector of the race, in all that pertains to its physical and moral welfare, is a boon greater than endless millions or worldly power. Of that profession I have been one these many decades. That is why I am here, distinguished and honored more than I personally deserve, but understanding perfectly well that my brethern have come here with the sentiment of professional goodfellowship, and the lay friends to do homage to their greatest benefactors, namely, medical science and the American medical profession, in the person of one of its fellows.

What I have said, gentlemen, may look to many rather like an academic discourse than an after-dinner talk. It remains for me to thank you for your patience; remember, however, this happens only once in seventy years. I have to express my thanks for many more things. Consider my recollections of nearly half a century. I came here a foreigner, and never was made to feel I ever *was* a foreigner. I emerged from a European state prison to breathe the pure air of a free country. My political and social ideals were not all fulfilled, it is true, for nothing is perfect that is human; that is why it was still necessary for me to be an abolitionist and a mugwump, with the perfect assurance—which I still hold—that some time or other the minority will turn out to be the majority. I

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imported nothing but the willingness to work hard and to be modest and grateful. I joined a profession that owed me nothing, and knew still less of me than I knew of the profession. The kind reception I met with surprised me, for I knew that a foreigner would not be treated in the country I had escaped from. I had but little except the knowledge of my duties and responsibilities. With that small capital I was received and allowed to co-operate as an equal in whatever concerned the profession and its relations to the commonwealth, city or country. I repeat only what everybody knows, so I do not boast when I say that one by one almost every place of honor the profession had at its disposal has been mine. Of *this* day I must not speak, for I cannot do so without tears in my throat. Who is there that wondered that, when many years ago the great honor of a responsible position in a foreign country was offered me, it took me a single minute only to decline? I was, I am, rooted to the American profession, that I have observed to evolve without governmental aid, out of its own might, to become equal to any on the globe. I was, I am, rooted in the country that was my ideal when I was young, my refuge when, alone and persecuted, I stole away, and always, clouds or no clouds, my sunny hope forevermore.

And this "Festschrift!" These last weeks I wondered many a time, as I do now, that I should be the receiver of that honor. When many years ago heroes like Virchow, and then again Henschel, were to be held up for the admiration of the medical world, I had the privilege, on both occasions, of coöperating in the expression of the estimation in which they were held. This distinction is rare, even in the country of my birth. In our country, I know only of two such dedicatory volumes: the "Wilder Quarterly-Century Book of 1893," dedicated to Professor Burt Green Wilder, of Cornell University, and the volume presented to Professor W. H. Welch, of Johns Hopkins,—once a hospital assistant of mine, now one of my honored masters,—last night. That the country which adopted me, and gave me, a peer amongst peers, opportunities to work, should in true cosmopolitan spirit adopt this method, rare

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enough in Germany, of raising a man to the greatest possible height of distinction, and making him shine above all men—and this man I—is far, far beyond what was the culmination of all my possible hopes. That men here and the world over should respect me to the last day of my life, was the extent of my pardonable wishes. If nothing else, however, this book, the work of others, will carry my name to posterity. I accept it with the gratitude due for that immeasurably rich gift. Amongst its contributors I see the names of many old friends, and some whose faces I never saw; the names of men from all civilized countries, honored in the realm of medical literature, known to one another by their achievements, separated by seas and boundary lines, but working for the same ends in the service of science and of mankind. Aims, methods and persistency are common to the medical profession of all countries. On its flag is inscribed what should be the life-rule of nations: Fraternity and Solidarity.

A BANQUET SPEECH AT THE THIRTIETH
ANNIVERSARY OF THE GESELLIG-
WISSENSCHAFTLICHE VEREIN,

1900

AN assembly, like this of to-night, devoted to the Thirtieth Anniversary of the Social-Scientific Society, arouses the memory of everything German education and German heart have been able to accomplish in this land of our refuge in the course of time. Of all associations that pursue philanthropic ends, German Society takes first place. Its beneficent work has been continued now far into the second century. Since that time German books and German journals, German churches and lodges, German schools and hospitals, German singing and gymnastic societies, German emigrant and orphan homes. German industries and trades have contributed, each in its way, to make the German name honored, and to accomplish results which were possible only on this free soil. Also German learning is worthily and influentially represented. There is no great university in this country but has not some important chairs occupied by Germans, and many a time Germans have earned great merit in the creation of new branches of study, as, for instance, that of anthropology in Columbia University by Professor Franz Boas.

Failures were not lacking, of course. I recollect, indeed, with pleasure the enthusiasm by which the Free German School in Fourth Street was created more than forty years ago, but it has disappeared. Fifty and forty years ago, when the city was not one-fourth as large as to-day, there was at least one German theatre, which was prospering; to-day there are *only* two. I fear very much, indeed, that the unselfish enthusiasm of a hustling director has not been able to secure the active assistance of the German

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public and thereby to maintain an influential home of culture in sufficient efficiency.

The Social-Scientific Society was founded at a time when the feeling of self-respect and of belonging together of the German-Americans had been strengthened by several occurrences. The Revolution had landed hundreds of thousands of all classes on the American shores; the Civil War had aroused their enthusiasm for their new country and thousands had risked their lives for the invigoration of the gradually evolving nation, and the successful consolidation of their old fatherland and the victory of the German army in France did the rest. Originally the Society was planned for a small membership only. Scientific meetings were the principal feature; they culminated towards the end of the evening in a Round Table at which a glass of beer and a good disposition were the only social elements. Physicians, teachers, jurists and literary men formed the majority of members. On an anniversary night it is but proper to think of the founders who have gone to rest long ago. It is beautiful and human, sometimes perhaps useful, to honor the living, but it is of still greater advantage not to forget the dead. I will mention Alexander Schem, an influential pedagogue, great scholar, and comprehensive author, the editor of a great German Encyclopedia, and of a Cyclopedia of Education, a picture of what Heine has immortalized in his phrase of the sentimental oak tree of Westphalia. But he was not sentimental only, but pursued practical aims. He wanted gradually to make this society the centre of the political life of the Germans, without approving, however, of that particularism which, in the West, dreamt of the creation of German States of the Union. For a time we had with us Fritz Kapp, in reality a citizen of two worlds, another Westphalian, stalwart, amiable and scholarly like Schem, the historian of Steuben, De Kalb, and of Seavery. We miss Ernst Krackowizer, to the premature end of his life the Viennese Legionary, youthful in heart and mind, a great physician, an enthusiastic citizen of this country, a most unselfish and strongest character, a most faithful friend and interesting entertainer. We miss Althoff, the

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eminent ophthalmologist, and amiable companion, a lifelong friend of Adolf Stahr and Fanny Lewald; Precht, the wise and amiable teacher. Another one of this group was Nöggerath, and of those still living, Felix Adler, who has remained the same in heart and will. It can be safely said of him, that he is one of those who insist that idealism must be converted into accomplishments, if it is not to become hollow dreaming. This was the original tendency of this Society, whose existence has been gradually endangered by the struggle for a livelihood, the exactions of daily life, and the great distances of our ever-growing city.

Then it came to pass, especially at the instigation of Dr. Zinner, that the admission to the Society was made easier and that the social element received at least equal recognition. Since that time the history of the Society is better known to many of you. Its general tendency has not actually changed; it cannot be said that the social element has supplanted the popular-scientific side; the great majority of members endeavor without doubt to promote scientific and ethical interests. What it has accomplished is known to you from the single meetings to the lectures, published in full or in synopsis. What it has indirectly accomplished probably is to be more highly estimated than its immediate results.

The individual is really unconscious of his influence on his environment, and still it is there. That lack of education, rudeness and crime are contagious diseases, is generally conceded. Culture of mind and heart exercise their influence in the same manner without necessarily passing the threshold of consciousness. We cannot all produce the immediate, far-reaching results which follow the action of the author, the orator, the leading scholar whose work marks an epoch in his science. We individuals must be satisfied, therefore, to recognize with joyful gratitude the influence of our German-American authors, Seidensticker, Eisellen, Hassaurek, Heinzen, but should not forget that everyone of us, must, necessarily possess some influence. The knowledge of this fact ought to remind us of our responsibility. We owe this to ourselves, and to

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the people we joined, as naturalized citizens; to every single one of us, and to the entirety of a society like ours.

Besides, the solution of this problem becomes easier from year to year. During the thirty years of the existence of this society, the interest both of the educated and the plainly mercantile part of our fellow-citizens has turned towards the study of German language and literature, and thus the influence of German life and German mind grows more important. The German Christmas tree and the German beer are not the only elements of culture. No people is more accessible for foreign educational achievements than the present generation of Americans. This is best explained by the wide distribution of general education, which is not peculiar to great Bostonians of the past. There, whatever immigrated or American-born Germans possess of knowledge and skill will not want for appreciation. An American need not be a great mediator in culture, the demands of intellectual and industrial intercourse are sufficient for a conscious and unconscious exchange. In this way the blending of two civilizations will result in the growth of a higher one; out of the blending both of minds and bodies there will rise in the future, a new race that will possess the best traits—and let us hope, only these—of all the peoples and races which will have to solve the problems of history on this common soil. The type of the American to come, can be indifferent to the shallow only. Your society, having been formed for the promotion of German culture, will have to find its principal aim in being and speaking German, to preserve German culture and education in public and private life, and thus to contribute its share to the formation of the future. This does not tend towards an unpractical ideal, but it is our plain citizens' duty, which, moreover, is not hard to obey. The fact that the American is receptive is easily proved. American nativism, criticized so much by ourselves, has existed locally and frequently, but who has fought and removed it? The American himself, not we. Who is it shouting at present for the limitation of immigration? Mostly the immigrant laborer. It has always been my experience that the edu-

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cated American considers foreign culture as an article of import to be appropriated as fast as possible. The statutes and customs of this country are not patterned for exclusiveness. Whoever of us has something to offer, will always be welcome. Moreover, it must be gratefully recognized that this or that immigrant faulty habit or view, will not be countenanced. Antisemitism, for instance, this nasty and ridiculous monster, this hybrid of inborn meanness, vulgar envy, acquired conceit and poor alcohol, has found here but scant hold. Whenever this has been the case, it must not be forgotten that there is moral contagion as well as physical, like cholera and influenza, which likewise are imported articles but could not find a lasting market.

Many of you will have heard that colleagues and laymen have been equally eager to offer honors to me. If the American be a nativist why this just to me, the foreign-born, the immigrant, and, besides, in a degree never before experienced, never dreamt of? I ask you, is there a people on earth equally ready to honor a foreigner, in a way that would make any native proud? Just think of it! I have not even been asked for my historical passports! People only remembered what I have striven after in this country, in this city, for half a century, and perhaps have achieved to a certain extent, and they thought to be entitled to confer upon me, even a kind of civic crown.

This has been also your case. You desired to bring home, in your benevolent way, to the septuagenarian your condolence in the shape of congratulations, and your success was splendid. Here I am, sitting at the well-spread table like an American, distinguished by popular favor, in the Prytaneum. Your acclamations have convinced me that I have earned, to a certain degree, your approval and friendship. Three things, then, are left for me to do: firstly, to try to understand how I brought this about, secondly, to act not much different, perhaps somewhat better, in the future, and thirdly, to express herewith my deepest gratitude which is due to you in such rich measure.

MEDICINE AND MEDICAL MEN IN THE UNITED STATES

It is the purpose of this address to contribute to your knowledge of transatlantic medicine and medical men. That is why I have to ask the pardon of both of my countrymen and all of you, but mainly of the French gentlemen here assembled, for using—or, perhaps, misusing—a language not my own, but better known to most of you than mine. In this way I hope to serve the ideal of the International Congress, which admits the delegates of medicine from all over the globe, recognizes three languages as equivalent, listens to contributions on all possible topics connected with medicine and its numerous tributaries that are offered by the glory-crowned heads of the profession and by those on whose shoulders, now young, will rest the future of medical science and practice, and thus give an example of cosmopolitanism, the universal realization of which must be left to the coming century.

Many millions of the population of the United States are European immigrants or their offspring; commercial interests between the two hemispheres are numerous, and there is a daily intercourse through correspondence, telegrams and travelers; the French and German languages are much studied in America, but while European literature is copiously imported into our country, our own is not so well known in Europe. Even European governments send to us representatives to study economical, mechanical and agricultural questions. But it appears that there are difficulties as regards the international appreciation of what concerns American medicine and medical men. Possibly it is because the intercourse between medical men is not sufficiently extensive and long. When our best men come to Europe it is for the purpose of

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rest; you find, unfortunately, but few of the great—mostly older—men at the international congresses. That of Washington in 1887 was not much frequented by Europeans for reasons satisfactory to themselves. Our young physicians and students who flock to European universities are not and should not be taken as fair representatives of American medicine. Your own great or well-informed men rarely come to us to see with their own eyes. Books on general American topics, like that of the superficial and slumsy L. Buechner of Germany, or that of the ignorant and shallow, though elegant Bourget, of France, written after a few weeks' limited observations with narrow opportunities, are more apt to obscure the mental view than enlighten the mind. The spirit of de Tocqueville is no longer alive in the tourist.

THE CLERGY AS MEDICAL ADVISERS

The first advisers in case of sickness, all over New England at least, were the clergymen. Indeed, that first news we have of diphtheria in that region came from them. John Rogers and John Fisk are known to have been preachers and doctors, John Foster, of Boston, wrote the first medical treatise published in America in 1677—"Rule to Guide the Common People of New England; How to treat—Smallpocks or Measles, Etc." What might have been expected when real doctors took possession of the field occupied by the clergy, however, did not occur. For a long time the latter remained staunch friends of the medical practitioner. The Reverend Cotton Mather, in 1721, strongly favored the inoculation of smallpox and defended and protected Dr. Boylston, who was persecuted by the mob of Boston for having a mortality of 2 per cent. among those inoculated, compared with one of 14 per cent. among those suffering from genuine smallpox. It is different now, when there is no trade or profession more fond of sectarian medicine, and medical dilettantism than the clergy. Part of the latter, however, spent all its energy in another direful direction; the witchcraft prosecution and *auto da fe's* were theirs, and mainly.

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Cotton Mather's, while it is creditable to our medical forefathers that they had nothing to do with them.

EARLY AMERICAN PHYSICIANS

The first early physicians in the colonies came from abroad. Wooton, in 1607, Russell, in 1608, appear to have stayed but a short time, for it is reported that when John Smith was wounded, he had to go to England to be treated. The name of Lamontagne is mentioned in 1637, John Clark, of Boston, in 1638; Child, in 1644. There was but very little opportunity to learn in the seventeenth century. We know of no lectures except those of Dr. Giles Firman, who lectured in Harvard in 1647 on human osteology. At that time medical practice was learned in apprenticeship; young men would serve and study with a practitioner from three to seven years, the same time that Jacob served for Rachael, without getting her after all. This system of apprenticeship was continued with more or less modification, until recently. Indeed most medical schools, until lately, would accept the apprenticeship with a preceptor in lieu of a year's college course. But in the early times those who had the means, and the ambition to learn, went abroad to Leyden, Paris, Padua, or Great Britain. They were mostly classical students; classical students were, indeed, so much thought of that the Medical Society of New Jersey 120 years ago demanded Latin and some Greek as indispensable for the license to practice medicine. That was, unfortunately, changed; for until a short time ago the admission to a medical school depended solely on the sweet will of the untaught and ignorant ploughboy or drygoods clerk.

EARLY MEDICAL LECTURES AND MEDICAL SCHOOLS

Our first information in regard to medical lectures refers to those on anatomy. Evidently that subject struck the imagination of chroniclers most forcibly. Dr. Thomas Cadwallader instructed students in Philadelphia between 1745 and 1751, as did Drs. John Bard and Peter Mid-

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dleton, in 1750, in New York; Dr. William Hunter, in 1752, in Newport, R. I., and Dr. William Shippen, in Philadelphia from 1762 until 1765, when the Medical College of Philadelphia was founded. He lectured on anatomy and midwifery, in agreement with the time which did not abhor, out of sheer ignorance, the incompatibility of anatomy and obstetrics. Historical justice compels me to add right here that it was a professor of anatomy, our famous poet, Dr. Oliver Wendell Holmes, in Harvard University, who in 1843, long before the unhappy Semmelweis, proclaimed the contagiousness of puerperal fever, and the incompatibility of the lying-in room and the dissection-table. It was Shippen, the anatomist, who tried to establish a school of midwifery. Again, it is historical justice to proclaim that the injustice of man has not only interfered with the instruction, but in most states, even with the very existence of midwives, in contradistinction to the old Philadelphian. There were two medical schools before the War of Independence—one in Philadelphia, established in 1765, and one in New York, established in 1768. The first degree conferred in medicine was that of Bachelor of Medicine, in 1768; the first degrees of Doctor in Medicine were given in New York to S. Kissam and Robert Tucker, in 1770. Before 1776, when the war suspended them, these two institutions had conferred 51 degrees. The medical school of Harvard was founded in 1782; that of Dartmouth, N. H., 1797, and that of Lexington, Ky., in 1799. Thus, in 1800, there were five medical schools in what then was the United States. In New York the names of the professors were Richard Bailey, John R. B. Rogers, Wright Post, William Hammersley, Sam. L. Mitchell and David Hosack.¹

¹ David Hosack graduated in Philadelphia in 1791 and afterward studied abroad. He brought home with him a cabinet of minerals and a herbarium. He helped found the Historical Society of New York in 1804 and maintained the Elgin Botanical Gardens, between Forty-seventh and Fifty-first streets and Fifth and Sixth avenues, which now form part of the valuable property of Columbia University.—Sidney H. Carney, *Medical News*, Feb. 17, 1900.

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The Medical School of King's College, in New York—the name formerly borne by Columbia—was discontinued, but in 1860 the College of Physicians and Surgeons, which was founded in 1807, simultaneously with the School of Medicine of the University of Maryland, took its place as a nominal, and a few years ago, as an actual, part of the Columbia University. Of the 156 medical schools which exist at the present time, three date from 1765 to 1800, twelve were established between 1801 and 1825, twenty-two between 1826 and 1850, thirty-three between 1857 and 1875, and eighty-six since. How many more have been so good as to disappear from the face of the American earth nobody cares to learn or to know; if we knew we should shed no tears.

In 1899 there were 156 medical schools in the United States, with 24,119 students; the latter have increased 142 per cent. in twenty-one years. Of the 156 schools, 21 call themselves homeopathic, with 1833 students; 7 eclectic, with 582, and 3 physio-medical, with 85 students. I hope nobody will ask me for an explanation of the three last terms, in this year, 1900; for I could not give one. Of the 156, 74 are departments of colleges and universities; 82 are separate institutions, and only 152 grant degrees. In addition to these 156 there are 10 medical schools for graduates, who come to the larger cities, mostly New York, for the purpose of taking courses, chiefly in specialties. In 1899 these 10 schools had 1916 students, of whom 73 were women.

Of the 10 graduate schools 3 are in Illinois, 1 in Louisiana, 4 in New York and 2 in Pennsylvania. Less than 2000 physicians are taught in these institutions annually, most of them in short courses. They employ 300 professors and 381 adjunct professors and instructors. There can be no doubt as to two effects; first, a good many practitioners of the country have a more or less brief opportunity to improve themselves, and, second, many practitioners of the large city bask in the sunshine of the professional dignity. Sometimes it seems as if plain doctors were scarce at present. But there are some left.

At the time of the War of Independence there were

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probably 3500 physicians amongst the three million inhabitants of the colonies. It is estimated that 400 of these had received medical degrees. In 1798, 16 doctors of New York died of what was called "the plague"; there were 94 in New York in 1800.² At present we have probably 120,000 practitioners in the United States.

The ratio of physicians to population is less than 1 to 600 in our country, while in Great Britain it is 1 to 1100, and in Russia, 1 to 8500. Proportionately we have four times as many physicians as France, five times as many as Germany, six times as many as Italy, and six times as many medical schools as either of these countries. Medical teaching, however, will be better, more uniform and more in accordance with the real requirements of the people, when our 156 schools have been reduced to 25, and each of them is connected with a university as its medical department.³

Of the 55 political divisions in the United States, including Cuba, the Philippines and Puerto Rico, 21 report no medical schools. Of the 156 medical schools in 34 political divisions, 80 admit both men and women, 7 women only, and 74 are departments of universities or colleges. One requires a college degree for admission, namely, Johns Hopkins, in Baltimore; 12 a school course; 3 a three years'; 12 a two years'; 97 a one year's course; 29 a common school education, and 2 give no reports; 6 have a 9 to 10 months' course, 21 an 8 to 9, 45 a 7 to 8 and 84 less than 7 months' course; 141 maintain a

² Sidney H. Carney tells us that about that time the gold-headed cane was still pretty universal, but small clothes disappeared rapidly and pantaloons took their place. He also tells us something of their pay. In Bellevue Hospital the attendants on plague cases received twenty shillings daily; at that time the hospital was three miles out of town. A visit amongst the people cost one dollar, a visit and dose of medicine a dollar and twenty-five cents, pills twelve cents; for going a mile out of town one dollar extra was charged; to Brooklyn three, and to Staten Island ten dollars. Venesection cost from one to five dollars.

³ Henry L. Taylor: Professional Education in the United States, p. 367.

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4 years' course, 10 a 3, 2 a 2 and 2 a 1 year's course. One is unknown.

MEDICAL PRACTICE LAWS

The earliest law⁴ relating exclusively to physicians was passed by Virginia in 1639, but, like the later act of 1736, it was designed mainly to regulate their fees. The act of 1736 made concessions to physicians who held university degrees. In only two of the thirteen colonies were well-considered laws enacted to define the qualifications of physicians. The General Assembly of New York, in 1760, decreed that no person should practice as physician or surgeon in the City of New York till examined in medicine and surgery and admitted by one of His Majesty's Council, the Judges of the Supreme Court, the King's Attorney-General and the Mayor of the City of New York. Such candidates as were approved received certificates conferring the right to practice throughout the whole province. A similar act was passed by the General Assembly of New Jersey in 1772.

In 1840 laws had been enacted by the legislatures of nearly all the states to protect citizens from the imposition of quacks. Between 1840 and 1850, however, most of these laws were repealed, or were not enforced as a result of the cry that restrictions against unlicensed practitioners were designed only to create a monopoly.

QUACKS AND QUACKERY

As every people, high or low, cultured or uncultured, has just as good doctors as it deserves, it appears that one-third of those who practice, mainly in Germany, where for thirty years the practice of medicine has, by act of government, been lowered from a profession to a trade, are barbers, weavers, shoemakers, shepherds, waiters, workingmen, tailors, carpenters, etc. With us in America the dilettanti are mostly clergymen, the quacks mostly women, trained nurses, spinsters without occupation, etc. Quackery has been raised to a sort of religious creed, and is practiced and preached with fanaticism, not so much

⁴ Henry L. Taylor, loc. cit.

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amongst the poor and untaught as amongst the better-to-do classes, the semi-instructed and half-cultured, the well or overfed and mentally unbalanced men and women. It is wonderful to what extent the so-called better classes of society, professional people, journalists, lawyers and the clergy submit to the imposture of frauds or to their own imaginations, based on ignorance or half-knowledge. Nothing is more apt to prove that one-sided information is far from being general culture. That is why we have all sorts of "pathies"—osteopathy, vitapathy, electropathy, hydropathy, divine healers, magnetic healers, christian scientists, faith curists, mind curists, sun curists, Zion curers, etc. In most states, and in New York also, these shams are unchecked; in spite of the apparent strictness of the law, they exist simply because under its wording it is found impossible to determine the exact meaning of "practice of medicine." It is in the cases of these enemies of the human race that the well-directed efforts of legalized county societies of medical men, supported by good lawyers, have often proved ineffective.

MEDICAL SCHOOLS

Medical schools grow like toadstools. Charters were granted by legislatures indiscriminately. These schools were self-sustaining; they were created by a few doctors who, in any town, combined to foster their own interests or that of a few friends. After the Medical College of Philadelphia, when reorganized in the University of Pennsylvania in 1792, had dropped the requirements of Latin and some Greek, of physics, natural history and botany, no preparatory education was expected of a matriculant. In many schools that is so to this day. These schools rivaled each other in the cheapness of their fees, in the shortness of their terms and in the easiness of their examinations. There was no clinical instruction of any kind fifty years ago, almost none, even in large cities, forty years ago, when physiology, chemistry, pathology, surgery and obstetrics were recognized as legitimate subjects for instruction. The term of lectures was from four to five

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months, the length of study, two such courses, which were identical, the teacher repeating his instruction twice to the uncouth candidates of medicine. The result of the examination after two such courses was a diploma, and this diploma carried with it the license to practice. Whenever a progressive medical school was anxious to raise the standard of education, it had to fear the loss of students on whom depended its fees, that is, its existence; and so it happened that the University of Pennsylvania had to rescind its good intentions, when, twenty-five years ago, it dared to lengthen its course of studies.

The power to confer degrees differs in the various schools of the forty-five states composing the Union.

Low standards in many professional schools⁵ are due to a failure to subject the degree-conferring power to strict state supervision. In New York and Pennsylvania the laws now prevent an abuse of the power to confer degrees. A similar bill, strongly advocated by educators, was defeated in Illinois through the efforts of politicians and others in favor of low standards. In Ohio and Nebraska the statutes require only the nominal endowment of \$5000 for a degree-conferring institution. In other states and territories, as a rule, any body of men may form an educational corporation with power to confer degrees without any guaranty whatever that the privilege will not be abused. From all of which you infer that it is impossible to judge of the Union from a single state. It should never be forgotten by Europeans that it takes forty-five states to make the United States, that these states are of different ages, populations, races and cultures; that they have different needs and requirements; that the greatest refinement of the East, the wild naturalism of part of the far West, the abject animalism of part of the South, are covered by the same flag, and that the boundaries of most states include the most various degrees of culture, and of the contrary.

The omnipotence of every medical school which gave the license to practice with its degree of Doctor of Medi-

⁵ Professional Education, by James Russell Parsons, Jr.

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cine led to the grave evil of furnishing the country with low-grade practitioners. It is true that mainly in the Eastern states a few colleges would gradually improve their methods of teaching and lengthen their curricula, but they were exceptions to the rule. On the contrary, some of the schools in New York opposed bitterly every attempt at progress. Progress is due, not to the schools themselves, but to the influence of the medical profession that forced the schools to submit to public opinion, which insisted upon improvement of medical instruction. As early as 1837, in Philadelphia, and 1839, in the Medical Society of the State of New York, it was resolved that teaching and licensing should be separated.

ORGANIZATION OF MEDICAL ASSOCIATIONS

This movement resulted in a call for a convention of delegates from all medical schools and societies in the United States. This convention of 1846 led to the formation of the American Medical Association, and was the forerunner of many attempts at giving us better doctors and better schools.

The Association of American Medical Colleges that was founded in 1890, the American Institute of Homeopathy, in 1844; the National Confederation of Eclectic Medical Colleges, in 1871, and the Southern Medical College Association, in 1892, deserve credit for earnest efforts in that direction. The greatest difficulty is found, as I have said, in the different standards of the people of our vast territory. Indeed, every century, and every people, has exactly the doctors it deserves, just as it has the rulers it deserves. That is why it is so difficult to arrive at a uniform standard all over the United States, and to arrange a reciprocity between the states which would allow the physician of one state to settle in another.

Much has been accomplished in this respect by a special committee, which reported at the meeting of the Association of Medical Colleges, in June, 1899.

Based upon the replies of fifty-six of the better schools, the following rules were proposed:

1. After July 1, 1900, every matriculant is to have a

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diploma from a high school or to pass an examination in the branches required by a high school.

2. Before a student can be eligible for the degree of doctor of medicine, he must have attended in a well-equipped medical school four courses of lectures of at least six months each. These courses must embrace at least 3300 hours' actual work in the school, including—besides didactic lectures and recitations—500 hours of laboratory work, 150 hours of practical work, one or more obstetric cases personally attended by each student, and 750 hours of clinical teaching. At least 45 months must intervene between a student's matriculation and the date of his graduation. All of the work should be fairly apportioned throughout the four years. No school can be considered capable of giving the requisite instruction that cannot command each year at least 3000 hospital or dispensary patients for presentation to its classes.

How difficult it is to reach such ends may become visible by the single fact, that it took us, the medical men of the State of New York, as assembled in the medical society of the state—not of the schools, many of which were opposed to us—twenty years' constant exertion, with many defeats, to enforce a minimum of preliminary knowledge before matriculation, and the passing of an independent state examination after the degree of doctor was obtained from a medical school, both for citizens and for foreigners, before the license to practice was awarded. How important that is you may best understand when you are told that during the few years of the existence of the new law, of 4808 physicians examined, 3722, or 77.5 per cent., were successful, of 916 dentists examined, 77.5 per cent., and of 67 veterinarians, 44.7 per cent. were successful in obtaining their licenses. Thus the people were saved from the rubbish of incompetent doctors that, in former years, would have swelled the dangers to the public weal.

MEDICAL INSTRUCTION AND INSTRUCTORS

The course of instruction has undergone great changes. A few years ago the so-called "seven branches of medi-

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cine " were taught in didactic lectures, repeated annually, to unprepared young men. There was no laboratory, and but little clinical work. At present the curriculum of all good schools extends over four years, includes systematic and compulsory work in chemical, pathologic, histologic and bacteriologic laboratories, and furnishes clinical instruction, no longer exclusively to large classes with no means of independent examinations on the part of the student. Moreover, the studies are graded, progressive from year to year, and in many schools the students are examined from year to year. This plan is objected to by those who favor absolute freedom of teaching and learning, in accordance with the theory of European continental universities. But the study of medicine should no longer be an individual affair. A school represents, in teaching those who are to practice on the people, the people itself; it should hold itself responsible to the people, and should be prevented from letting loose members of unprepared men or women; it should, therefore, make the exact studies without which no practitioner can at present perform his missionary work, compulsory. With advancing years, and after a long experience as a citizen, a practitioner and a teacher, I never forgot the ideals and principles of my youth that centered in the demands of individual freedom, but I was of the opinion that the public good should precede personal rights and control individual action. That is why I deplore the waste of a year or more in the life of a student as so many lost opportunities, and as a dereliction of duty.

What is demanded of a medical department of a university is the furnishing of a supply of amply equipped medical men. This does not exclude, however, the other responsibility and privilege of a university, viz.: to furnish opportunities and means for independent research. I have forty years of professional life behind me, and can assure you that the best original workers of after years, in and out of laboratories, were those who most closely attended the prescribed laboratory exercises.

It should also be mentioned as a hopeful sign of the rapid developemnt of American medicine, that more and

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more men, and also women, have gone into medicine with all the warmth of hearts enlightened by intellects, and not for the money that may be, but rarely is, in it: and that quite often well-to-do men are carried into and kept in the laboratories of medicine by the enthusiasm engendered by the fascination of scientific research. They invest their own in their pathologic, biologic, histologic or chemic labors, and, as good citizens of the Republic, are satisfied with the interest their investment will bear to the domain of science in the service of humanity. Medicine, like politics, will be the purer for the money put into it, instead of being taken out of it.

It is hardly forty years since any systematic policlinical instruction was given in the best of our schools. Now, together with obligatory laboratory work, clinical teaching bids fair to assume the leading part in our instruction. But we are far from having European facilities. For what governments do for you, we who have but very few endowed medical schools, have to rely on the efforts of the profession and the benevolence of those who appreciate the good that is done to mankind by medicine and the medical profession.

Until a few years ago all sorts of educational institutions were benefited by philanthropists to the exclusion of medicine. Some change has taken place in that. From 1894 to 1898 the most notable gifts and bequests amounted to \$2,631,000 for medical schools, and \$16,593,701 for hospitals. The new medical school of Cornell University, situated in New York, has been presented with \$1,500,000 by a single benefactor. In the City of New York alone the names of Vanderbilt, Sloane, Carnegie, Ollendorfer, Woerishoffer, Seth Low, Payne and Pierpont Morgan are not the only ones that should be mentioned and never forgotten. This, however, is not all. Only two years ago an unknown benefactor presented Columbia University with a fund wherewith to establish a ward in Roosevelt Hospital for the bedside instruction in the diseases of children for the medical students.

Benevolence is even more special than this. Mrs. Caroline Brewer Croft left \$100,000—which, however is re-

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duced by the English heirloom tax—to Harvard University, on the condition that the income thereof should be spent on researches on the etiology and cure of cancer; the same purpose for which the legislature of the State of New York has for some years past spent \$10,000 annually, to be used by Rosewell Park, of the University of Buffalo. Special hospitals are either endowed or benefited in a similar manner. The Cancer Hospital of New York was established, or strengthened, by money given by Mrs. Collum and Mrs. Astor many years ago. It has, however, changed its destination and name since.

In this way much good has been done, not always well directed, though well meant. It is peculiar to notice, however, to what extremes different elements in the same nation will go. The same medical profession which has to be grateful for spontaneous offerings made in the interest of a scientific education is compelled to fight annually before almost every state legislature, and before the Congress of the United States, the dangerous fanaticism displayed in the antivivisection movement by the old women of both sexes and all ages.

Who were the teachers? In by-gone times a few practitioners would combine to form a school; legislative approval could be had for the asking; they were our "professors." This position gave them prominence in the public and increased their private practice; that is why the salaries, if there were any connected with their places, were commensurate with their possibilities to make money outside. Now and then the anatomist got more because his office took more of his time. Thus it happened that medical teaching was considered subordinate to other occupations, even in good schools. There are but few men of those times who are remembered because they were teachers; my old friend Alonzo Clark, one of the most learned, intelligent and eloquent professors the College of Physicians and Surgeons ever had, was almost forgotten before he died, not twenty years ago, and Austin Flint is better remembered by his textbook than by his personal teaching. That has changed. Teaching has begun to be considered as an end in itself in medicine as it is in

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other disciplines, mainly since the introduction all over the world of the exact collateral branches of medicine, which each require all the time and all the attention of a teacher, and mainly since the foundation and gradual development of the medical faculty of Johns Hopkins University, in Baltimore.

The systematic study of pathological anatomy and other so-called exact branches of medicine, histology, bacteriology, etc., is comparatively young. After all, they are young all over the world. Fifty-two years ago, when in Germany, and wanting to learn something about pathological anatomy, I had to go to Göttingen to listen to Frerichs, the only man who taught it in Germany, with the exception of Virchow, in Würzburg, and Rokitansky, in Vienna. These studies began in America at a very opportune time. T. Mitchell Prudden and William H. Welch had each a small pathological laboratory in New York in connection with the medical schools to which they belonged more than twenty years ago, but the systematic study and teaching commenced with the first development of the ideal of a university. While formerly we had some good medical schools, that furnished good average doctors for the community, we then approached the era in which we arrived at the knowledge that a university was to be an institution which was not only to impart knowledge, but also to create knowledge by original research. This ideal was first realized by the Johns Hopkins University, at Baltimore, since William H. Welch was called to the chair of pathology. We then had the peculiar spectacle, characteristic for modern medicine, that the newly-established medical school, contrary to what was customary both in America and in Europe, consisted originally in laboratories of physiology and of pathology. From that time on, remarkable changes took place in the configuration of most of our medical schools. Pathological anatomy became of fundamental importance, full professorships of that branch were established in most great schools, and also dozens of laboratories both for teaching and for research. Besides, many of the hospitals were supplied with pathological and clinical laboratories which vie with those of

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Europe, assistantships and fellowships were increased, and the students were taught to appreciate the new opportunities given and demanded by modern medicine. As far as T. Mitchell Prudden, in New York, is concerned, the volumes of publications emanating from the beautiful laboratory of the College of Physicians and Surgeons prove his enthusiasm and successes; and never was there a more influential teacher than Welch, who in two brief decades succeeded in disseminating exact research all over the United States through his students and followers, who have been called, one by one, to Philadelphia, Chicago, Albany or Boston. Dozens of them combined to celebrate on May 4, 1900, the twenty-fifth anniversary of his graduation as doctor in medicine by a precious volume containing original contributions of the very highest order, an honor to the famous master and an ornament of medical literature. There are in our recent American literature two more dedicatory volumes of similar import, one containing anatomical papers contributed by his pupils in honor of Professor Wilder, of Cornell University, 1893; the other, mostly clinical, written both by pupils and by American and European colleagues in favor of a New York teacher. In the face of such results, and such enthusiasm, and love of work, who is there that still looks down on American medicine and American medical men?

AMERICAN MEDICAL LITERATURE

According to E. H. Bradford,⁶ while the best physicians of the colonies and the young states acquired their knowledge in Great Britain, their books were English. No books grow on the stumps of the forest primeval. When the War of Independence began in 1774, there was one book, three reprints and twenty pamphlets by American medical men. To-day there are 7000 American books and a countless number of pamphlets; there appear annually 300 books and pamphlets and 5000 journal articles. In one year, 1879-1880, the United States published 10,-

⁶ Boston Medical and Surgical Journal, June 29, 1899.

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334, and Great Britain, 7476, books and articles. In the catalogue of Harvard University of 1875-1876, 44 foreign and 13 American medical books were recommended to the students; amongst the latter there was none on medical chemistry, obstetrics and surgery; in the catalogue for 1898-1899 there are recommended 71 foreign and American books.

The first regular publication of a journal occurred in 1790. It carries the following title: *A Journal of the Practice of Medicine and Surgery and Pharmacy in the Military Hospitals of France*, and contains absolutely nothing but translations. For another half century France was, together with Great Britain, almost the exclusive fountain from which the thirst of American medical men was quenched. The first original journal was the *Medical Respository*, which existed from 1797 to 1824. Not long afterward the first quarterly, then monthly, *American Journal of the Medical Sciences* was founded by Dr. Isaac Hays. These seventy years it has preserved its reputation for its scientific spirit, industry and conscientiousness. Much that was new, much that is new, may be found in its volumes.

Of the large number of quarterlies, or monthlies, I may be permitted to mention the *University Medical Monthly*, of Philadelphia; the *Albany Medical Journal*, of Albany; the *Postgraduate*, of New York, and the *Therapeutic Gazette*, of Philadelphia, not to speak of special journals, such as the *Annals of Surgery*, the *Archives of Pediatrics*, the *American Journal of Obstetrics and Diseases of Women and Children*, the *Archives of Ophthalmology and Otology*, the *Journal of Mental and Nervous Diseases*, and many others, some of which are now and then quoted in Europe, and all of which deserve more attention than they have hitherto commanded.

There are in every nation some publications which in their individual spheres demonstrate the very best that can be accomplished, and by which the intellect and industry of a people should be measured. Such proofs of the achievements in medicine in America are contained in the *American Journal of Experimental Medicine*, edited

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by Welch, and the *American Journal of Physiology*, by Bowditch and others. They are the pride of those of us that have lived through the most important period of the development of American medicine, and equal any of the European productions of similar claims. I know they have met with the unstinted praise and applause of European masters.

As an unavoidable contrast to so much excellence one cannot help noticing the hundreds of medical journals which appear all over the United States. Many are printed with honest intentions, others for the purpose of advertising their editors or of puffing proprietary articles. The growing commercialism of the end of the century grasps every opportunity, and medical, like every other branch of literature, is prostituted in the interest of social, professional or financial egotism. That is why the 300 medical, or alleged medical, journals of the United States could well be reduced to fifty. If this were done, both medical knowledge and ethics, and the independence of medical journalism would be served to better advantage. Under the present circumstances the medical publications live more on advertisements than on subscribers, and both the publisher and the editor soothe their ethical and scientific conscience, if it ever existed, with the glitter of gold. I have been told mainly in the medical magazines both of France and of Germany, that the same occurs in your countries. I speak, however, of what I know, and I am best informed of what is going on in mine.

Among the most important instructors of the medical profession in our country are the great weekly journals which appear mostly in the large cities: New York, Philadelphia, Boston and Chicago. Most of them have a large number of subscribers, and have existed long. *The Boston Medical and Surgical Journal* has reached its 142d, the *New York Medical Journal* its 71st, the *Medical News* its 76th, and the *New York Medical Record* its 57th volume. The *Journal of the American Medical Association* which has appeared for eighteen years, takes the same place in relation to the American Medical Association that is occupied by the *British Medical Journal* in

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relation to the British Medical Association. It was founded to publish the proceedings of the association, which from 1848 till 1882 had published thirty-three volumes, and, by opening its many pages to contribution from other sources, has improved both in material and tone from year to year.

I must not close these remarks on the weekly journals of my country without mentioning the *Philadelphia Medical Journal*, which was founded by a society of medical men that wished it to be independent of the medical publishers both in its finances and in its scientific and ethical management. We in America are peculiarly situated; if you in other countries are no better off, it is your fault, as it is ours. There are very few journals in America that pay anything to the contributor, and when you want reprints you have to pay for them. The policy of a journal, the selection of the advertisements, sometimes even the admission of articles more or less scientific or quackish, is to a greater or lesser extent in the hands of the publisher. It takes an editor of unusual character and prudence either to hold his place or to be removed unceremoniously. But the publisher gets rich; that is what, in his opinion, medical science, art and quackery are made for. This condition of things was to be changed by the newly-established *Philadelphia Medical Journal*. It has succeeded to a certain extent. It furnishes a large weekly edition, with good, original articles, and well-selected and digested extracts of whatever is best in the medical literature of both hemispheres, with a more ethical class of advertisements than most other journals can boast of, with a fearless editor, and with a list of subscribers that has exceeded 10,000 within two years.

Contributions to the literature of medicine, not of equal rank, are furnished by the large societies, particularly of the states. Many of them publish annual reports. The American Medical Association published thirty-three volumes before its transactions were collected in its journal. The New York Academy of Medicine has furnished nineteen volumes since 1847, which are found in many libraries of Europe; the College of Physicians of Philadelphia, twenty-nine since 1787. The very best, certainly

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among the best, are the productions of fourteen special national associations, which were founded at a period in the life of the American Medical Association, when its results did not satisfy the expectations of those who had no time to spare for entertainments, excursions, medico-political wrangling and other pastimes. These men, most of them of a specialistic turn of mind, and bent upon filling their time with work, congregated into special associations, whose members were recruited from the vast territory of the United States. The oldest of these seceding associations is the "Ophthalmological," which was founded in 1864. The majority have a limited membership. The Association of American Physicians had originally 100, now 125; the Pediatric, 40, now 60 members. The object was to select the working members of the profession only. Thus it has happened that their contributions to literature are very valuable indeed.

The Ophthalmological Association has published until the beginning of this year 8 volumes since 1864; the "Otological," 6 since 1868; the "Neurological," 22 since 1875; the "Gynecological," 23 since 1879; the "Surgical," 16 since 1881; the "Climatological," 14 since 1884; the Association of American Physicians, 13 since 1886, the "Orthopedic," 11 since 1889; the "Pediatric," 10 since 1889, and the "Anatomical," 8 since 1888. The Genito-Urinary Association publishes its transactions in the *Journal of Cutaneous and Genito-Urinary Diseases*, and the "Physiological" in the *American Journal of Physiology*.

In addition to those there are five volumes of unusual excellence, containing the proceedings of the "American Congress of Physicians and Surgeons," whose history is creditable to Mastin, Pepper, Weir Mitchell and others, who founded it. It is as follows: When all of those fourteen special national associations had existed for a greater or less time, and when among the most comprehensive and philosophical minds of the nation the fear of unchecked specialism became more terrifying, it was resolved, amongst universal applause, that the "dissecta membra" should unite once every three years into a congress, whose meetings should be held in Washington,

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while the selection of the time and place of the two intervening annual meetings of the individual societies was left to their own discretion. In this way the union and unity of medicine was recognized and re-established—a very necessary step in our times, where the appreciation of the principles and purposes of humanitarian and scientific medicine are in danger of being lost sight of in the same degree that the horizons of the specialistic workers, in clinics, shops and laboratories became narrow.

Books are numerous, and of about the same nature as in Europe. Text-books for students on all possible subjects, and written by masters, or those who believe they are, some of them masterpieces, some indifferent, some catechisms, which, with their questions and answers, appear to be compounded by idiots for the use of idiots—“*que c'est un plaisir de se voir imprimé,*” says Molière—they all appear to find a market. It is perhaps invidious to select, but I may here say in a general way, that some of our text-books in medicine, obstetrics, materia medica, diagnosis, embryology and many other branches compare favorably with yours. Of monographs we have not as many as you; probably for the reason that the number and the variety of our many weekly and monthly journals devour whatever monographic essays have been prepared. Cyclopedias we have like you. It is very fortunate that the publishers, who, as a rule, were the first to give the idea, had no power over their contents. Those edited by Pepper, Keating, Loomis and Thompson, Mann and Stedman deserve as high praise as those published in Europe. A pleasant feature in medical bookmaking is the occasional participation of the Congress of the United States. Indeed, almost every state of the Union publishes frequently, at the expense of the people, papers and books of common interest, mostly geological, geographical and agricultural. Medicine owes to the appropriations of the national Congress, not always given with equal liberality, six volumes of the Medical and Surgical History of the War, two Medical Statistics, seventeen of the Index Catalogue of the Surgeon-General's Library, with its continuations, and the Library itself.

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The *Index Medicus* was not a government publication; at first printed by an ambitious and enthusiastic publisher, it was afterward secured by a small number of the subscribers willing to pay a big price. Its final collapse after twenty years' strenuous labor on the part of Drs. Billings and Fletcher is not a creditable leaf in the book history of the profession of the United States.

There is, I believe, no country with a greater consumption of journals and books than the United States. There is probably no village doctor anywhere who has not a library, who does not buy books or cyclopedias from time to time, and take one or more journals. What Colonel Stoffel called thirty years ago the "instinct of labor" in the German Government Employer, is applicable in some other way, to the American medical student and practitioner. They waste no time, are industrious workers and voracious readers.

There is probably, however, no country with a book trade in a more wretched condition. In our city of three million inhabitants there is a single book-store in which a fair number of medical books in our own language of different authors and publishers are for inspection and sale. The latter sell their own books on subscription, by the aid of circulars and advertisements, and by agents, who vie with those of wholesale drug manufacturers in making doctors' lives miserable—it is individualism run mad. I see no better remedy than a syndicate of medical men for the purpose of publication and promiscuous sale.

Medical libraries were founded at an early date. The oldest—founded in 1762—is that of the Pennsylvania Hospital, in Philadelphia. The library of the New York Hospital was founded in 1776 and transferred to the New York Academy of Medicine two years ago; it then had 23,000 numbers. That of the College of Physicians, in Philadelphia, established in 1788, has about 56,000 numbers; that of Boston about 30,000. The largest medical library of our, perhaps of any, country, is that at Washington, in charge of the Surgeon-General of the Army; it contains more than 100,000 numbers, well selected, in excellent order and accessible to the medical men of the

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vast country, who, I know, avail themselves eagerly of the proffered opportunities. It was founded by William A. Hammond during our Civil War, continued and extended by John S. Billings, and is at present in charge of Dr. Huntington. Next in order is that of the New York Academy of Medicine, with about 60,000—or, with duplicates included, 80,000—numbers. It increases rapidly, partly through purchases out of the income of its library fund of \$56,000, partly through donations, and partly through the accumulation of 700 medical journals on the shelves of its reading-rooms. Our brethren of the Kings County Medical Society, in Brooklyn, have just finished a new building, in which their rising library has been stored. Smaller medical libraries have been established in at least thirty cities, as far as I know. Large libraries are also in possession of private physicians. A year ago Dr. N. Senn, of Chicago, presented his collection of more than 24,000 books to the Newberry Library, of that city. I am acquainted with one in the possession of a New York physician of about 15,000 numbers.

ETHICS

The ethical conscience of the physicians of the United States is exhibited in a great many ways. It is considered unethical for a doctor to own a drug store or a part of it; to take a patent on any invention of his own; to recommend over his name a patented instrument, a proprietary food or medicine or mineral water. This is illustrated by what happened to the famous Morton after his successful demonstration of the anesthetic effect of ether in the Massachusetts Hospital. After having extracted a tooth on September 30, 1846, without giving the patient any pain, he applied immediately for patent rights and sold individual office rights. Moreover, he kept his composition, which he called "letheon," a secret. It was then that the profession turned against him and forced him to admit that his "letheon" was sulphuric ether disguised by some aromatic oil. A medical man in America is prohibited ever to advertise his name, or office hours, or

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his specialty in a newspaper or lay magazine; even to announce his specialty, if any he have, on his cards. If ever his name, his departure from the country or his return is publicly announced, the suspicion is that he instigated the publication. If cases or operations of the same physician appear repeatedly in the public press, it is taken for granted that it did not occur without his knowledge, consent or prompting. All of these things impair a medical man's professional standing; they render him an improper candidate if he applies for membership in a medical society, or make him, if he be a member, the subject of discipline. In regard to all this, part of which may appear too rigorous in the eyes of Europeans, I beg to submit that, as in all democracies, laws and rules are not enjoined by a controlling government, so in their societies and organizations democratic medical men make their own rules and regulations, and see to it that they are obeyed. It is true that it takes democratic men, and gentlemen, to frame such strict rules, and to heed them.

Many of the rules accepted by American medical gentlemen are contained in a book compiled by an Englishman, Percival, in 1807. It was received as the code of ethics of the American Medical Association in 1847 and is still obeyed by those who know the book, or who do not know it, or even by those who never knew of its existence. One of the regulations of the code forbids consultations with homeopaths.

It is hardly necessary to say that for those of you for whom the practice of medicine is not only diagnosis and autopsy, but the treatment and cure of the patient in whose behalf a consultation is to be held, when medicinal treatment is in question you cannot agree with a homeopath who is a Hahnemannian; and you do not want to meet a homeopath, who, because the name is still fashionable and for a portion of the misinformed public the subject of an almost religious fanaticism, employs that title for meretricious purposes. Still there are cases in which it would be inhuman to refuse a consultation in an urgent case. Not only were such consultations held from olden times, but even in large cities, exceptions

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to the rule were always frequent, indeed too frequent in my opinion. Moreover, whoever is acquainted with smaller cities and villages, where a homeopath is the only rival or companion of the regular physician, knows that for either it would be suicidal to refuse a consultation. Only lately one of the medical men most widely known for his wisdom, in the American Medical Association and in the profession at large—Dr. S. C. Busey of Washington—proclaimed that the rule forbidding such consultations should be so modified or explained as to permit them in cases of emergency. This is exactly what the Medical Society of the State of New York made its official policy in 1882. We considered it more honest to admit by law what was constantly being done, and to decree precisely, that for reasons of humanity and in an urgent case a consultation should not be refused. For this sin we, the body of the Medical Society of New York, were expelled from the American Medical Association. You see we have in America our persecutions for heresy, when we have not even the recognition of religions in our constitution. It was in their names only that *auto da fés* were held and the bodies of men were burned. In these eighteen years, however, the animosities have not died out. You see we are a people of surprises, and have not yet found out our equilibrium. What indeed does all the discord amount to? The whole profession agrees about the inadvisability of consultations, in the very interest of the patient, with a certain class of practitioners, in the average case of illness. In emergency cases such consultations are deemed permissible for reasons of humanity by both parties of the profession. One of them bases its action on the written code of ethics, the other believes a written code to be unnecessary for its guidance. A third forms its own code of ethics, like the Medical Society of the State of Massachusetts, in 1871, and those of other states, without and recrimination on the part of the American Medical Association.

It is my opinion that our successors will hardly believe we ever were serious men when they learn that an enlightened and public-spirited profession could go to war

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over differences of motives and methods when the end in view was the same.

It would not be proper to dismiss the subject of the position of medical men without referring to them as sanitarians. It is to be taken for granted that all family physicians are sanitarians in the families they have charge of. In their societies public hygiene is frequently the subject of discussion. Practical work in that direction is evidenced by the Sanitary Commission of the Civil War, the effective labors of the New York Academy of Medicine in the reconstruction of the Quarantine Islands in the harbor of New York, and its defensive work in cholera times, the—it is true futile—efforts of all the large societies of the country in favor of the re-establishment of the National Board of Health which perished because a short-sighted Congress refused the required appropriation, and the intelligent activity under the direction of medical men, of our municipal boards of health. It is true they are hampered by the greed of politicians. Imagine that in New York the President of the Board of Health must not be a physician. Whether this is more sad or more ludicrous does not matter. The only consolation the citizens of a republic have when they contemplate such an anachronism, is that they have nobody to blame for it, and have nobody to correct it, but themselves.

But I do not wish you to believe that we American doctors are altogether angelic. Wings have not grown from our scapulæ yet. We are not such good citizens as you may believe from what I had to praise. Indeed there is no class of citizens that takes less interest in municipal, and political, other than sanitary, affairs, than doctors. It is true their vocation takes all their time and is exhausting; but the examples of European parliaments in which good medical men are representing the people, should not be lost on us. With us, however, most of the medical men in state legislatures are not the best representatives of the profession from which they claim to come, and wherever there is a medical man in the Congress of the United States, you would not know he was one unless you were told. There is at present a Senator of the

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United States—think of Rome and of Emilius Paulus and of Cato; of France and Arago and Nélaton; of Germany and of Virchow—who calls himself a homeopathic physician, no: a homeopathic doctor, and is the staunchest adversary of the medical profession and the solidest champion of the antivivisectionists. There is one weakness from which the medical profession of the United States does not appear to recover. In order to explain I should say that in the early times of the Colonies and the United States, when medicine was immature and doctors scarce, the population was obliged to rely on domestic remedies and later on proprietary and quack medicines. It is estimated that our people spend at present 200 millions of dollars annually on proprietary medicines; I think that this estimate is too low. Unfortunately medical men rather sustain than combat that bad habit. Our wholesale manufacturers of drugs are always busy, their agents are everywhere, their wares are dumped on the tables of the physician of the country. The vast majority of the physicians accept them, employ them, and recommend them, and their prescriptions are frequently nothing else but the name of an American or a foreign proprietary compound. I am certain that amongst the most meritorious and instructive books of America there are none less known and appreciated than the *Pharmacopeia* of the United States and the *Formulary* of the National Pharmaceutical Association.

If there is any way to lower the regular profession and to raise and enrich the manufacturers of drugs, and drug compounds that is the way. I emphasize this, because I know from the advertisements in your journals, and from the attention paid in your articles and laboratories to proprietary stuffs of all kinds, both medicines and foods, and from oral reports of friends in all countries, that you Europeans are not much, if any, better than we; that our bad example has not taught you and that you are swamped, or about to be swamped in the cloud-burst of greedy commercialism.

Specialism is as rampant with us as it is with you. In all doctrines and branches of practice there are with

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us, as with you, men who know medicine and practice a specialty. But there are thousands who do not care to know medicine, but mean to make both a reputation and riches out of a limited degree of dexterity and a boundless ocean of self-assertion. That will in time correct itself, but it takes time. I trust it will disappear, if not before, when the meretriciousness of trade and industry will have found its legitimate termination in the establishment of a sounder and juster policy of human society.

In democratic communities the free will of the collective individuals takes the place of government dicta. In place of orders coming from above, rules are obeyed that are universally agreed upon by co-operating individuals. That explains the early formation of medical societies in our thinly settled country. Two were formed during Colonial times, namely, the Medical Society of the State of New Jersey in 1766, and of Delaware in 1776; in 1876 there was only one state in the whole Union that did not have a state medical society. Affiliated with the state medical society, and sending delegates to it, there are societies in many of the thirty to sixty or more counties of a state. The state societies as a rule meet annually, the county societies monthly, or quarterly, according to their membership, isolation and distances.

All these societies are represented in the American Medical Association, which was formed in 1847, with the exception of the Medical Society of our great State of New York, which was deprived of its membership since 1882 for a reason to which I have referred.

I should state here that the homeopathic and the eclectic practitioners of the United States are legally recognized as separate bodies like ourselves, and are similarly organized. It should also be known that there is a certain relation, legally established, between most of the state medical societies and the legislatures of their states. This legal position is not, however, possessed by the American Medical Association.

Still, the voice of that body, powerful through its numbers and the character of its membership, is frequently raised in connection with public questions. So is that of

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other large societies. The New York Academy of Medicine, for instance, has often advised and co-operated with official bodies of New York City and State, though originally it was not intended that it should exercise any such influence. Other societies which in large cities are formed for special scientific purposes, have no such influence or activity and do not claim it.

The number of medical societies in large cities has probably become too large. There are many practitioners who are members of many more than one society. Besides the legalized society of the county—I now speak of New York City—having about 1500 members, there is the “Association of the County,” with about 800, and a third one lately formed—the Society of Greater New York. If our brethren would only remember that there is more strength in forceful consolidation than in fanciful expansion or multiplicity—but then, it is not always strength and harmony that some men seek, but egotistic self-assertion and envy of the success of others. Besides, we have many societies limited to certain neighborhoods on account of the great distances, and special societies such as the Pathological, Neurological, Ophthalmological, Dermatological, Obstetrical; also a large and active German Medical Society, and last, but by no means least, the New York Academy of Medicine, which I mentioned before. Let me say a few words about it, for it illustrates some of the differences between America and Europe.

NEW YORK ACADEMY OF MEDICINE

When our New York Academy of Medicine was founded in 1847, it was well understood that it was to differ materially from what is called an Academy of Medicine in Europe. The latter is always a government institution, and in some way or other is supported by centralized national means, or accumulated funds. Its members comprise the intellectual and sometimes the social heads of the profession only. Young faces are seldom seen amongst its fellows. Membership is, as a rule, obtained after a long life of successful scientific pursuits only. Their

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labors and efforts are not always intended for immediately practical aims or objects, but become beneficent by the action of that logical force which ordains that there is no scientific result, no truth ever so abstruse, that will not finally terminate in some tangible application. Though all this be true, the limitation and exclusiveness of membership results in a sort of aristocratic estrangement from the masses of the medical profession, and still more from the community at large.

The New York Academy of Medicine has a broader democratic basis. The high and the lowly, the old and comparatively young, the mature and the youthfully ambitious combine for the same purpose. The Academy is not connected with any school or college. It is self-supporting, and is carried on in the interest of the whole profession, whether members or not. There are no fees or emoluments of a private or individual nature. It is a democratic community, with equal duties and rights. It is not subsidized by the state or municipal corporation. Its aims are the elevation of the profession to a higher scientific standard for increased public usefulness. Having been a member for forty-three years, I have known it when it was small, and followed its growth with grateful and hopeful eyes until it was established in its present palace, with its ever-increasing public medical library, second in size and importance in the country; its absence from medico-political fights about the advisability or superfluousness of a written code of ethics; its impartial and non-political interest and co-operation in all public sanitary questions; its labors in matters of quarantine, cholera and watershed; its generosity to members and non-members alike; its rooms taken up by many large and small special societies so as to form the medical center of the metropolis; and its ten sections in constant working order. These have given the young and deserving men, during more than a dozen years, the opportunity for legitimate competition, for obtaining a hearing and making their reputations, which are due—next to themselves and their honest work—to the New York Academy of Medicine.

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Ask me, for a medical institution, democratic, enlightened, independent, generous, and progressive, the daughter of a country free, independent, progressive, and in spite of the present plutocratic clouds overhanging its clear democratic sky, the hope of future mankind, and I shall give you the name of the New York Academy of Medicine.

SOME FACTS ON MEN AND INSTITUTIONS

During the time of the War of Independence there lived Bard, whose papers on diphtheria are to-day examples of good observation and elegant diction; and Rush, one of the signers of the Declaration of Independence, a fertile writer and famous teacher; a little later Dunglison the lexicographer, Drake, the author of the "Diseases of the Mississippi Valley," and Mitchell; then men like Wormley, whose "Microchemistry of Poisons" appeared in 1867. Contemporaneously there was Bigelow, the inventor of litholapaxy, and Oliver Wendell Holmes, who wrote on the contagiousness of puerperal fever in 1843; then came Harry P. Bowditch, Meigs, Clark, Flint, J. W. Draper and Beard. Remember, I speak of the dead, of some of the dead, only. Of modern times I shall mention no names, but the many studies on malaria, amebæ, blood, and diagnosis in general, commend themselves to the studious expert. The literature of these few generations is very fertile; even smaller men did meritorious work. In 1835 it was Fisher of Boston who discovered the fontanelle murmur, and in 1832 it was a country doctor in Canandaigua who gave the first plausible explanation of the crepitant râles of incipient pneumonia. What should always be remembered is this, that all the men I mentioned were engaged in the practical work of their profession; and that some of them had enjoyed no other instruction than what the insufficient schools of the country could furnish.

Thus it appears that no faulty system of teaching, no defectiveness of schools, hamper a man whose stimulus is necessity from within, and an ideal. Sometimes this

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alone is sufficient for unusual results. Think of Marian Sims, and, in spite of his insufficiency as a pathologist, of the impetus his genius gave to gynecology.

But this is not what is best known in Europe about us. We are principally credited with the introduction of anesthesia into practice.

Dr. Long, of Jefferson, in the State of Georgia, removed a tumor under ether. But it was a dentist, William T. G. Morton, who successfully gave ether to a patient on whom Dr. J. Collins Warren operated for a tumor, in the Massachusetts General Hospital in Boston, on October 16, 1846. Before this assembly of medical and lay men I confine myself to what Lecky says in his "History of European Morals": "It is probable that the American inventor of the first anesthetic has done more for the real happiness of mankind than all the philosophers from Socrates to Mill." Nothing remains to be said, except that not only was the discovery made in America, but even the name anesthesia was coined by an American, Oliver Wendell Holmes, great as an anatomist, as a physician, a poet and a scholar.

Our perfect ambulance system has been largely imitated in Europe, and to a small extent, also, the night medical service for the poor.

Thus, for the humane purposes of medicine you admit America exhibits a good record; in many other respects it does not excel, but equals Europe. Its hospitals and operating rooms are like yours, many I have been told are better than yours. There is no country in which the demands of antisepsis and asepsis are more scrupulously obeyed than ours. The medical attendance on hospitals, however, is capable of improvement. In Europe a distinguishel man is known for his life-long connection with a special hospital. That is less so with us. The ambition to be on a hospital staff, the democratic tendency of the authorities to be fair to the greatest possible number, are the reasons why the hospital staffs are unduly large, and the year is divided up in alternating temporary services, and men are compelled, in order to have hospital services through the whole year, to seek them in different

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institutions. The improprieties and drawbacks of this arrangement have so long been felt that the establishment of permanent services, mostly of a special nature, has been resorted to in some hospitals. One particular disadvantage of our system of cutting up our hospital services, which you may have noticed, is that our hospitals, while a source of constant improvement to the lucky incumbents of the medical places, have not contributed to medical literature in the shape of special scientific reports, with the exception of the last few years.

The assistantships are in almost every case in the hands of young graduates who obtain their places after competitive examinations. Their terms of service range from one and a half to two or two and a half years, in semi-annual advances from grade to grade. This method affords a great many young physicians an opportunity for more or less independent work guided by their superiors who make gratuitous daily visits during their term of service. That is how the people of the United States derive immense benefit from the facilities afforded to a very large number of young graduates before they enter into private practice.

When I rose, I did not mean, nor was I expected, to entertain, but to communicate facts. I spoke good and evil of medicine and the medical men of my country in order to secure knowledge and appreciation in Europe. What I briefly wrote for you could be only flashlight pictures, which, when more closely inspected, may be apt to convey some information; what I could say are but fragments; what I wished all the time was to help in relieving mutual isolation. This isolation has sometimes led to misapprehension and estrangement, but I think you have lost more from them than we, for our eyes were and are always directed to the East, whence we came one-half, one, two centuries ago, and where the sun rises. But it takes the sun only four or five hours to come to us, and it is the same sun. Your books are on our shelves, our students and doctors go to you to learn and to compare, and they return, and the time is fast approaching, I hope, when yours will travel with the sun to enjoy the light of the

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West. In this way mutual appreciation and respect will engender tolerance and justice, and kill chauvinism. Modern chauvinism is just as much a people's overestimation of its own old methods and actual or alleged achievements as original hatred. That is why every nation is infected with it; for its cause is ignorance, owing to the narrowness of mental horizons. When vision is locked up in valleys, the sun rises late, or too late, or not at all.

Of jealous rivals, mutual appreciation makes eager collaborators. That I take to be the sacred office of international meetings. That is why, as I have done these twenty years, I gladly came and, with the approval of your officers, selected this subject, to do away with errors and misapprehensions, and aid in procuring mutual understanding and fraternity. Cosmopolitanism does not advance on parallel lines. Some classes of men, some branches of science, must be the first to force a breach. Such a class of men, and such a science is medicine, most humane, both as theoretical knowledge and applied art.

Perhaps I had an additional reason. I come from a country that at present is believed by many of us, and of you, and, I regret to confess, by myself, to be not true, at least temporarily, to its principles and its history, though all firmly believe and trust that the soul of the people is sound and its feeling is conservative.

If only the political and social development were founded on the same basis of methodical research as modern medicine! That soundness, conservatism and method in evolution I claim for American medicine. Having the great advantage of developing out of Anglo-Saxon medicine, with its sober observations and cool thinking, no Schellingian mysticism ever led it astray, and popular fads did not permanently pollute it. It never forgot that the human body is not a mechanism, but an organism, that no specialties can legitimately exist apart from medicine, that the special doctrines and studies in books and clinics and laboratories are its handmaids, but not its equivalents, that what the great American, Benjamin Franklin, said is true, viz., that the knowledge of natural history is nothing if

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not applicable to some service to mankind, and, finally, that the object of medicine is always the prevention or cure of disease in man, community or mankind. That is what makes medicine, in its broadest sense, the example and harbinger of what we all should work for, the future enlightened policy of fraternal, cosmopolitan and humanized mankind.

ADDRESS AT THE BANQUET OF THE GER-
MAN MEDICAL SOCIETY IN HONOR OF
PROF. WILHELM WALDEYER, 1901

AGE has many advantages. You prove it to me when you accord me the privilege, this evening, on which we enjoy the presence of a celebrated scientist, of talking to you and to him, and also, as he cannot help it, about him. I can prove it, too, by telling you that long before many of you clearly knew the difference between vernix and a doctor's hat, it was again due to my age that I was able to make the acquaintance of our guest of honor, 'in the "Germinel and primitive layers." You will concede that not everyone is able to say the same of himself. This was in the year 1869. He remained in that condition for a considerable time, apparently beyond the permitted physiological period, so that as late as 1870 I was able to admire him in "Eierstock und Ei" (ovary and ovum). Professor Waldeyer, Doctor of Medicine, of Philosophy, and both laws, will recall *that period*, but not that I then made his acquaintance; I recall it to him, and recall it to myself, because it is to him I owe an increase in my self-esteem to a large degree. It happened in this way: I found in his book a passage that awakened in me a great deal of self-confidence. For it is stated there that the primitive condition of special individuals is hermaphrodital in their highest representatives. If you should happen to think that I did not count myself as among the highest representatives, you would be mistaken. I naturally took it for granted that he also referred to me. To have been Katharine Hohmann at some period of my existence is my justifiable pride. Hermaphrodite, besides, is identical with that Androgyne with whom the gods battled almost in vain, so that they decided upon the bipartition of the dangerous

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champion. Parenthetically,—this bipartition, which includes as a necessary sequence the reduction of power and a division of labor, is not always alike. Just think, if I were able not only to write my books, but also to write the criticisms of them. The medical profession would not care for this.

On reading the first work of a new scientist each of us likes to form an opinion of the author's responsibility. In the preface of the book referred to I read: "As the sexual organs have so far been made but little use of embryologically, these pages may possibly prove a welcome supplement." In the face of the wonderful result of his researches,—which are so generally accepted to-day that scarcely anyone recalls their author—and of the eminent erudition of the book, I was much impressed by the modesty of this remark. Immediately after that I read the hope, expressed by the author, that the volume was sufficiently thin to have remained useful as a reference book. A thin book! Look you, we savages are of another kind, with other ideas. I recall with pleasure the prophecy, voiced by one of you ten or more years ago, at an anniversary of the German Dispensary. It was then stated that on the occasion of the fiftieth anniversary, our colleague, Jacobi, would present the first volume of his work which was laid out to embrace thirty-two volumes on the diseases of children before Eve's memorable "apple."

In forming a judgment of books, I use a method peculiar to myself. Should a novel, for instance, fall into my hands, I always look at the last page first. If they are married and live happy ever after, or if no other calamity occurs, the novel is readable. At least it does not help to increase earthly misery. But I must know beforehand that everything takes its proper course. And this is the way I frequently handle scientific works. In our guest's great book on the pelvis, for instance, I also began at the last page. You will there find that lovely chapter on gruesome malformations, which gave me courage to study the work, and I was not disappointed in my expectations. But my hope that I should remember it all has not been fulfilled. I shall not blame the author for that.

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It has always interested me to observe where and in what number our great workers find the themes that they cook up for us. The smallest thing is great enough for them, as for instance, to our honored guest the 28-day-old embryo, on which he possibly lived as long as a year; or the lymphheart of the rana, which he took to his own heart. And the greatest is just small enough for them to play ball with. Some time ago I endeavored to observe him in his studies. But they were not all praiseworthy. Work on the teeth, an atlas of human and animal hair, or researches on the cochlea, on the axis cylindre, the process of ossification, on hernia retroperitonealis and on the peritoneum, I would perhaps pass. Nor can I object when the plexus pudendus is found to be single; that is probably its own fault; nor that he—the author, I mean, not the plexus pudendus—tackled the arteria obturatoria. But there is a limit to everything. Not even the human or simian placenta are sacred to him, and the breech-presentation of the fetus in the highly gravid uterus is dragged to light. But this is no longer within æsthetic limits. Still he is not satisfied. He treats the vascular bundles at the lower end of the spermatic cord, the ureters, the paradidymis, the trigonum vesciæ, the nerve-ends of the glans clitoridis and hottentot aprons as if he had gone to school with them. Not even the gorilla's spinal cord is safe from his attacks. He will require all his LL.D.'s astuteness and erudition with which he was invested five days ago, to prove to us that everything is in order. The thing that has particularly displeased me is the ambition which moved him not to be satisfied with two trochanters, for example, as we are but to make a search for and find a third one!

But all cannot be measured with the same measure. He has recently allowed us to see—perhaps without meaning to do so—how it is possible for him to engage in such multitudinous tasks and give free play to fancy, eye and brain. The fact is that he possesses large, secret pleasure grounds. You can read it all in his last book, which he himself has perhaps not seen in print yet. He has his own right duodenal field, his left renal field, his left ureter field, his recessus aorticus, into all of which he can

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probably retire. No Vanderbilt, no Carnegie, has such rich country estates. And when he requires solitude, he has the most distant duodenal niches and the narrowest and most secluded pancreas recesses at his command. And he is not at a loss for ready entrances. Just consider that this nabob has laid out for himself not less than five entrances to the pancreas. But if we want to be just, we must say that we cannot blame ourselves that he, and not we, did all this. He was in a position to do it, we were not; and, after all, when great national wealth is here, we did not ask who has created it, but take pleasure in it, enjoy it, and if we are gratefully inclined, praise the good spirits for it. And one of these is here among us.

I looked forward with pleasurable anticipation to the visit of Professor Waldeyer. Very often in my past life, and only last year at the Sorbonne, I had an opportunity to invite the scientists and practitioners of Europe to visit the United States. I am acquainted with some of the difficulties that stand in the way of successful visits to America on the part of the European teachers, but I know also what advantages accrue from frequent intercourse, to the members of both nations. The narrow limitations of such specialists as never have been or never can be physicians are not more intense than the contracted horizon of the chauvinist who never gets beyond his political frontiers. Hence the scientist, especially the scientist who is also a teacher, even if he is not like our guest, a physicist, physiologist and anatomist in one person, becomes a cosmopolitan by mere reason of his mission. Fortunately many of our occasional visitors have belonged to this class of intellectual aristocrats.

The reciprocal understanding has grown from decade to decade. After medicine had discarded centuries of adherence to systems, medicine as a national factor took its place. After Morgagni, Haller and Hunter the gloom was first dispersed by the French. The place of France was taken by Vienna; the place of Vienna and of its one school of medicine was taken by that *broad medicine* which, since the coming of Virchow, has made itself a part of biology, making the aims of the latter its own aims,

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and following its methods. It does not cling to a locality or to a country; it does not introduce itself by naming its birthplace; its home is the world in which there is clear observation, quiet study and logical judgment. The breaking with arbitrary systems and the entering upon scientific thought was a revolutionary occurrence, which mastered the teachers and the practitioners in a short time. Those who lived during the sixties and seventies will recall the powerful current which then took possession of every intellect. There was but one European country in which the modern views appeared more in the form of evolution than of revolution, and that was Great Britain, together with her sister across the Atlantic. Anglo-Saxon medicine had never been fettered by philosophical obscurantism, had never suffered from systems such as Brownianism, except for a short period, in our country, which was influenced by Benjamin Rush; had limited itself to clinical observations and had learned to experiment from John and William Hunter. Hence it was completely prepared to accept the new teaching from the continent, having been firmly established in scientific methods, by which it had been guided, not consciously perhaps, but consistently. I fancy that a Frenchman or German, who will calmly study American conditions for a sufficient period, must become convinced that the majority of Anglo-Saxon physicians and scientists are worthy of enrollment in the body of physicians and scientists of all nations. I wish Professor Waldeyer could remain with us long enough and make observations in many medical centers, to be able to tell us that I am not mistaken in my conviction. I am entirely willing that he should not allow himself to be influenced by the brilliancy of the celebrated names that have come before him this week in one place, and by the pomp and magnificent and loud celebration. The number of quiet studies gives truer evidence than the noise of joyful processions. His voice will be heard everywhere. I wish for Professor Waldeyer and his countrymen—and I particularly wish for ourselves—that he may gain a sufficient and satisfactory impression of this country, its aims and its accomplishments. In this

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event he will be in a position to contribute materially to that sense of brotherhood which takes possession so readily of scientifically inclined and trained spirits, and which will become more general in the measure in which education and culture are made the common possession of the individuals of all nations.

Every intelligent observer of our conditions must become clear on one point, that is, that all our efforts, consciously or unconsciously, have a practical aim. At a period when German thought was wrapped in mysticism, when its language was made obscure by a would-be philosophical conglomeration of words, the American, the Yankee, was looked upon with his restless labor as belonging to an inferior class of humanity. Du-Bois-Reymond forgot himself to the point of speaking jeeringly of the Americanization of science. It is true that one of our greatest countrymen, Benjamin Franklin, said that no science is sacred that cannot be made to serve humanity. But some Germans also say or do the same thing. Our guest prints on the title page of his great work on the pelvis the consideration which surgery and gynecology received in his anatomical studies, and emphasizes that he "embodied everything that seemed immediately available for use in practical medicine." Our great master, Virchow, expresses the hope, in his last words on cellular pathology, that he may have offered something to his audience of physicians that "they might make use of it in their practice"; and the entire medical literature is full of such expressions. Moreover, the principal current of modern medicine—divided between laboratory and practice—tends to prevention rather than cure, and the increase in the teaching chairs on hygiene shows plainly the estimation of Americanism in medicine. *This* Americanism is not of a national kind; it has become humanitarian and cosmopolitan. and will remain so. I will mention one example of Americanism in medicine, which may not have become known to our guest. The medical adviser of a wealthy man made it clear to the latter at the beginning of the present year, that a portion of his riches should be devoted to scientific purposes which would serve humankind, and that he should found an insti-

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tution which could perhaps be compared to the Pasteur Institute at Paris. Two hundred thousand dollars were furnished as an experiment, to find the direction which this work was to take. A board of directors consisting of physicians from Boston, New York, Philadelphia and Baltimore was elected. Among these are to be found men of international reputation; as a matter of course, my former pupil and present master, William H. Welch, did not refuse his services. And what is the first systematic work undertaken by the Rockefeller Institution? The study of the cow's milk in the udder, on the farm, on the railroads, in the milk depots, in the house, in the laboratory, with special regard to the feeding of infants. I know of no question which, although it has received so much attention, is more worthy of the consideration of all these who stand high in science and in life.

Dear Professor Waldeyer, I wanted to tell you in my greeting—pardon me for speaking so much of us—that we American physicians, and American scientists on the whole, feel ourselves as one with our brethren in Germany and all over the world. Our knowledge is the same: medicine as a whole; our guiding star is the same: humanity; our aim is the same: to work and do all the good we can. And just as we believe in these unities, we ask that the head continue to be warmed by the heart, and the heart to be guided by the head, and that the principle be introduced into our lives, that knowledge must not be a stranger to the human heart. We well know that it is not given to everyone to be a great investigator or an influential leader; but to desire and choose the best is permitted and offered to everyone. I know herein I express the view of us all; if you will speak in this sense of your American colleagues, including the members of the German Medical Society, you will but state the truth and be assured of our appreciative remembrance.

ADDRESS AT PRESENTATION OF PORTRAIT OF DR. PAUL FORTUNATUS MUNDÉ

PAUL FORTUNATUS MUNDÉ was born in Germany, September 7, 1846, emigrated to America with his father, who was a political refuge, in 1849, and died February 2, 1902. He studied medicine in Harvard and graduated in 1866. Returning to Germany he served as assistant physician in the Prusso-Austrian War, was from 1866-1870 assistant to Scanzoni in Würzburg, and as such was instructor in the midwifery school of Bavaria. After serving in the Franco-German War in 1870, he studied obstetrics in Vienna in 1871 and obtained a special degree as master of obstetrics; he spent some time in Berlin, Heidelberg, Paris, London, and Edinburgh. In 1872 he returned to New York. From 1873 to 1876 he was secretary of the New York Obstetrical Society, edited the *Journal of Obstetrics and Diseases of Women and Children* from 1874 to 1892, joined the New York Polyclinic in 1882, and took the obstetrical chair in Dartmouth in 1880. There he lectured many years. From 1881 he was gynæcologist to the Mount Sinai Hospital. In this academy, which he joined in 1875, he was corresponding secretary during 1885 and 1886.

He was a prolific, instructive, clear, and graceful writer. Besides a great many magazine articles he published a book on *Obstetric Palpation* in 1879, a *Minor Gynæcological Surgery*, 1880, second edition, 1885, and was coeditor of T. G. Thomas's *Diseases of Women* in 1891.

Dr. Mundé was deservedly popular both in the medical profession and with the public. The impression he gave when first met was that of a warm-hearted, good-natured, optimistic, and withal strong nature, only occasionally disturbed by a brief outbreak of passion caused by acts of injustice or the neglect of duty on the part of those for whose acts he considered himself responsible. In the be-

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ginning of his career he was a sanitary inspector in the Health Department, active, conscientious, and highly thought of by his superiors. As an editor he made of *The Journal of Obstetrics and the Diseases of Women and Children* a high-class journal which compared favorably with similar productions of foreign countries. It certainly has contributed much to the present high standing of obstetrics and gynæcology both in their scientific and practical aspects. As he was one of the well-informed and circumspect men who reach a specialistic position after having been in varied general practice, he was a safe consultor. Both in his private and consultant practice, and in his hospital work he was eminently cautious and conservative, looking with the same care for the contraindications as well as the indications of an operation. Concerning the position of gynæcology as a specialty, he was strictly loyal and conservative. He did not share the opinion of those whose tendency it is to wipe it out and treat it as part of general or abdominal operative surgery. His position as a member of the profession and as a teacher was to the last honorable and prominent; he deserved the honors conferred upon him both here and abroad.

His memory should be preserved as that of a bright, upright, meritorious, and progressive physician. That is why the trustees and council have gladly accepted and present to the academy this successful and artistic portrait, the work and the gift of Mrs. Mundé.

IN MEMORIAM: CARL GERHARDT

Born May 5, 1833, died July 21, 1902

CARL ADOLPH JACOB CHRISTIAN GERHARDT was born at Speyer on the fifth of May, 1833, received his doctorate at Würzburg in 1856, became assistant to Griesinger in Tübingen, then to Rinecker and Bamberger at Würzburg, was made Privat Docent in the same place in 1860, Ordinary Professor at Jena in 1861, succeeded Bamberger at Würzburg in 1872 and Frerichs at Berlin in 1885. His main literary works are "Laryngeal croup," 1859; "The Position of the Diaphragm," 1860; "Text-book of Pediatrics," 1861 (5th edition by Seifert 1898-9); "Manual of Auscultation and Percussion," (5th edition 1890); "Laryngeal Tumors and Disturbances of Motion in the Vocal Cords," 1896; "Diseases of the Pleura and Syphilitic Affections of the Larynx and Bronchi," 1898. To these must be added a number of essays in various periodicals and some in his Text-book of Pediatrics, in the publication of which he was engaged from 1877 for a period of twenty years. There is hardly a work in any language whatsoever which has advanced practical medicine to so great a degree—certainly none which has so firmly established the right of Pediatrics in the minds and acts of scientists and practitioners. To be sure he was obliged occasionally to defend himself against the "trade marks"—so popular of late years in Germany—of "Children-Doctor" and "Children-Specialist." At least he was once heard to mutter with a grim smile, "You are bound to reduce and properly classify everything."

No one was less able to hedge himself about with the limitations of the specialist than did Gerhardt. His great achievements in the diseases of the lungs and heart, his life-long work with the laryngoscope (he was the first

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to recognize the laryngeal cancer of the unfortunate Emperor Frederick), were equaled in importance only by his knowledge and achievements in all the branches of clinical medicine, chemistry included. Gerhardt's iron chloride test is familiar to all. His last research had to do with boric acid as a remedy for obesity, an example of the earnest search for therapeutic remedies on the part of one who made no secret of his scepticism which resulted from many disappointments intermixed with his numerous successes. In the universality of his interests as clinical investigator, physician, and teacher, he is the equal of Ziemssen and Kussmaul, all of whom, together with Virchow, departed this life in the same year—1902. He excelled all those in one quality which was characteristic. In his writings, as in his speeches, there was never a superfluous expression. Every sentence expressed a fact, a truth. Abridgment is impossible. Every word, as it was heard or read, is to the point, earnest, concise, almost blunt, carefully considered, weighty. This basic characteristic of his nature was early cultivated in him by Koelliker, Bamberger, and Virchow, with whom he spent his student days. The simplicity, straightforwardness, and honesty of his spiritual and moral nature at that time, developed later, in the matured scientist and practitioner, that logical and fascinating style which, while not lacking in elegance, appealed directly to the scientific consciousness and thought. These qualities have never disappointed the reader, the scholar, the assistant, or the practitioner in his search for help. Not even the shadow of Virchow, who died almost at the same time, will be able to obscure for distant generations the image of the investigator, the diagnostician, the therapist,—Carl Gerhardt.

REMARKS BEFORE THE MEDICAL SOCIETY OF THE STATE OF NEW YORK

THE report of the chairman of your Committee of Five encloses the work of the Joint Committee of Ten. As *its* chairman, I rise to add a few remarks to the complete historic review you have listened to. I do so with the expression of the most intense gratification. For it has never been my lot to assist at the labors of any body of men more engrossed by their work than this committee laboring for the consolidation of the two large State bodies.

The report before you gives no idea of the time and efforts required by the task entrusted to this committee. At first it seemed we had plain sailing. Nothing appeared to be simpler than to consolidate two corporations eager to be consolidated. A large amount of detail work was expected, but the enthusiasm exhibited in the Association and in the special October meeting of the Medical Society promised an easy fulfilment of our common intentions and wishes. There was perfect harmony. There never was an allusion to past difficulties, controversies, or animosities; nor was during the many and protracted meetings a single minute disturbed by the rumors spread now and then of alleged attempts at thwarting the will of the profession as represented in the Joint Committee. Its two halves worked with equal zeal; naturally, the actual work could not be equally divided; without invidious discrimination, therefore, the chairman wishes to thank two members for the unusual amount of labor cheerfully undertaken and successfully carried out—namely, the chairman of your Committee of Five, Dr. Elsner, and the secretary of the Joint Committee, Dr. Wisner R. Townsend. Nor should I pass by the uninterrupted and unselfish aid unofficially given by our president, Dr. Algernon T. Bristow, and our

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legal counsel, Mr. Howard van Sinderen, without whose indefatigable co-operation and fertile resourcefulness we should have stranded many times. In connection with this statement, I wish it to be understood that whatever has been done by your committee, whatever has gone before the Legislature, or has been presented to you, has been scrutinized, suggested, criticised, or created by him.

The Legislature has not been slow in appreciating and rewarding the efforts of the medical profession in behalf of its unification. Those of us who lived in by-gone times and participated in the work of this society are aware that it took years of strenuous effort and persistent persuasion to convince legislators of the importance and general usefulness of State Board of Examiners, of increased requirements for the matriculation in medical schools, etc. When at those different times we approached the Legislatures we were always confronted with the reproach that the medical profession was no unity, that what one wanted the other opposed, and with the fact that legislators declared themselves unable to decide a question in regard to which medical men were not of one mind. We were told many times, that if and when the medical profession came before the Legislature as a united body with demands, either in its own or the people's interest—both, as a rule, being identical—there would be no delay in complying with its wishes. That promise has been made good. Within a week the permissive bill asking for consolidation has been passed through the Senate, and the Assembly, and signed by the Governor. Our thanks are due to the kindly services of the Hon. Nathaniel Elsberg, and his and our friends in the Senate and Assembly, and the Governor, the Hon. B. B. Odell. Evidently there is no power in the land that would care to evade, or to disapprove, or claim a just ground to withstand the reasonable demands of the 11,000 physicians of the Empire State when united for a common purpose.

The Legislature of the future will be glad to know that whenever a bill will arrive that is voiced by the united profession and deals with the sanitary, educational, and other vital interests of the people of the State, they are safe in

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passing it. The mature judgment of the profession has not easily been mistaken. Indeed, whatever progress has been made in the scientific and moral evolution of the medical profession has been accomplished by the combined efforts of its rank and file, without the co-operation, and frequently against the opposition, of some medical schools or of alleged and self-complacent leaders. That is as it should be in a profession which is imbued with the democratic principles of the Commonwealth, and with the consciousness of its predominant weight in the determination of the most vital interests of mankind.

From the report read, you learn that the consolidated medical profession will bear the time-honored name of the Medical Society of the State of New York, that its seal will be preserved, its continuance not interrupted, and the individual rights of members enhanced. There will be no privileged class of almost 500 permanent members, some of whom have even lost their membership in county societies, and no danger from a possible predominance of such an aristocratic class. The house of delegates will count at least 150 members, in place of the Nominating Committee of Nine. It cannot elect its own members into offices. It is controlled by the referendum, which means an appeal to the total membership of the society in any doubtful or contested case. It takes the place of Congress in our political commonwealth. To it are referred legislation and administration, and it is renewed by annual election in the county societies according to the number of assembly districts, with this proviso—that every county society has at least one delegate. By being the legislative body, it leaves the meetings of the society free for its scientific work. The constitution and by-laws, formed under the eyes of legal authority, are safe from interference and are subject to changes by the majority vote of the medical society.

This is what is proposed for your adoption. Other points are referred to the future vote of the combined societies, so the question whether there shall be in the by-laws an ethical clause, whether the directory or journal or transactions shall be continued or not and the amount of dues.

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All this will be left for your 5,000 or 6,000 votes to decide.

You who met here as delegates or permanent members are in as momentous a position as any that the medical society was ever placed in during the century of its existence. Unification has been the demand of the vast majority of the profession of our State so long, that it has become practically unanimous. Not of the State alone, however. The profession of the United States is listening to your verdict of this morning. While it is our pride that this is so, and that on our resolution the fate of the country's profession may depend—to know that the eyes of our brethren all over this broad land are upon us this very moment, adds to our responsibility. Never was there during the life of this society a better opportunity for the display both of wisdom and of patience.

It is admitted on all sides that both patience and wisdom are demanded more on the part of the medical society than of that of the Association. The latter's organization is simpler, and being younger it is not beset with old, in part contradictory, often repealed, frequently only half-repealed, laws extending over a hundred years. The autonomy of the county societies, which the Joint Committee has been anxious to preserve, unless wisely exercised creates a difficulty. As their ratification of the new constitution and by-laws is demanded as a matter of course, their common sense, patience, wisdom and patriotism are required to a high degree. They will consider that laws are not made forever; laws are not the masters of men, but the expression of their will as modified by time, usages, and changed necessities. Even the sacred Constitution of the United States had to be modified by the modern requirements of the sons and grandsons of its makers. That is why it is recommended that if there be any points in the proposed constitution and by-laws displeasing one or the other, you are still safe in adopting them all. There are six thousand of us, and there will be more. Every year your constitution and by-laws may be altered if you deem proper. Your delegates will change, and your referendum is more powerful than any house of delegates. What we

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are after, is union. More than once a member of your Joint Committee got up to say: "We have been sent here to harmonize and to unify and to consolidate. We cannot return to our masters and tell them we have missed our opportunities to execute their will. I still hear the ring of enthusiastic applause when the unanimous vote calling for unity brought a tear to many an eye. And unity it shall be." I never heard the duties of sound citizenship expressed more emphatically.

After unification, we shall be satisfied that nothing will ever sever us again. For there will never again be a diversity of principles like 22 years ago. There will be a common faith, aim, and altar. We shall take, in the medical brotherhood, the place which belongs to us, and work for the ideals, scientific, moral and practical, such as no other profession can realize, together with our peers all over the Union. We must or need split up into parties nevermore. To the undivided and indivisible body medical the American people will look for authoritative guidance in matters of sanitation, education and forensic legislation. What a Greek sage demanded should and may become true, viz., that the Commonwealth will be advised and ruled by the physician. It is in this spirit that I appeal to you not to miss this opportunity of initiating for our glorious profession an epoch of fraternity, vastly increased usefulness, and almost ideal possibility for benefiting ourselves, our brethren, and numerous millions. I appeal to you as one of your oldest members who has stood by you in prosperity and distress, in peace and in war; and long and lately as a friend of reconciliation and union of the two great medical bodies of the State. The confidence both of your own committee and that of the Association has permitted me to preside over their long and laborious deliberations. This is why I feel I have a right to represent in this solemn hour the whole profession of the State in its anxious longing for consolidation, not as an officer, or a delegate, but as a peer among peers. That is, Mr. President, why I have risen to move the adoption of the following resolution:

Resolved, That the report of the Joint Committee of Con-

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ference be accepted and that the proposed agreement for the consolidation of the Medical Society of the State of New York and the New York State Medical Association be and the same is hereby approved, and the president of the Society is hereby authorized and directed to execute the same in the name and behalf of the Society, and the secretary is hereby authorized and directed to affix the corporate seal thereunto; and be it further

Resolved, That the committee of the Society heretofore appointed for the purpose of bringing about the consolidation, namely, Dr. Henry L. Elsner, Dr. A. Jacobi, Dr. A. VanderVeer, Dr. George R. Fowler and Dr. Frank Van Fleet, be and they are hereby, continued as such committee, with full power and authority to do whatever may be necessary to carry the agreement into effect.

THE CORONER'S OFFICE

I HAVE come here with no axe to grind, no friends to defend, no enemies to put down. I want no office and do not wish to depose others. The present coroners I do not know personally, so far as I am aware. What I have to say without circumlocution is the result of fifty years' observation of their office, which I consider antiquated, adapted to small backwoods' municipalities of a hundred years ago, but not to the complex necessities of a city of millions in modern time.

When a person is found acting queerly in a New York street, or has committed a series of inexplicable blunders or misdeeds, he is taken to Bellevue for the examination of his mental condition. Why there? Why not to any doctor or Sunday-school teacher? Because it is known that Bellevue has some actual or presumable alienist experts appointed for the reason of their superior special knowledge. All over the city the Health Department sends its experts in cases of doubtful eruptive diseases. Even police officers are furnished lessons to revive the drowning or seemingly dead, to give them some expert knowledge. I have seen results at their hands unobtainable to persons not so skilled.

One of the coroner's duties is to unravel the causes of violent, suspicious, or sudden death. What is their preparation for that office? They are elected by the people at the tail-end of the ticket, while their office should be one coming next to that of mayor and far above that of sheriff, with which the coronership is often classed.

Why and when are they nominated at all?—usually about or after midnight, when the nominating committee is bored and sleepy. I know it all, though I have never had a hand in it. What other reasons are there? Are the nominees good doctors, first-rate lawyers, honest liquor

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dealers, successful furniture men? Usually the men, with some praiseworthy exceptions, are but little known except in their district,—they furnish a surprise to the reading public, who wonder and submit. A great many years ago, it was believed that the place was one that should be filled by a doctor, but theirs is a legal office, not medical, not liquor, not furniture. Ask a lawyer where they learned their law. He will say, "Perhaps the nominee is a good doctor." Ask a doctor, who will say, "Perhaps he knows some law." But is there a liquor dealer or a furniture man in his sound mind that would voluntarily trust these or submit to them if an accident occurred to him or to his family?

Then comes the traffic in coroner's physicianships. Civil service examination? Oh, no! The candidate would have to be appointed because he knew enough to pass it. Surely he must be exempt both of knowledge and examination. He must be a good friend, worker, and healer. Are there such? There is no trade, no profession, free of them. Only last week the Health Department had to expel eight doctors of medicine, men with a diploma for stealing the confidence and the money of the community on the strength of forged reports. Are you, are we of the profession, surprised at the disbelief in medical men in and out of authority when such things happen? Do not forget, however, that no diploma ever made a gentleman who was not so before. Not even in appointees our authority-ridden people will always believe, not even in good appointments.

It is not a generation ago that I heard it said that a certain coroner's physician would have to go because he had been there so long that he had learned something.

What is it that has to be known to a coroner and to a coroner's physician? Everything that belongs to forensic medicine. Forensic medicine is medicine applied to legal questions, not merely preventive or curative. A doctor, and there are many of that class, who knows enough to prescribe a useless but uninjurious medicine and to avoid collisions with the police and district attorney, is not thereby a fit man to fill the place of an expert in forensic

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medicine. We have taught Europe much and learned much from Europe. Let us learn this—that all over the European continent they employ for every district an expert who not only has to pass rigorous examinations, but has to go to a centre of learning every few years to accomplish himself in all that is new in the art of diagnosis and of healing. Special studies, hard work, are more and more required. Only lately your own Medical Society of the State of New York passed a resolution to propose to the Board of Regents the question of a doctorate of health. As you require special sanitarians, so you require special men for forensic medicine.

And what are some of the subjects that should come and did come under the head of coronership? Let me mention a few: The exact knowledge of the signs of life, the changes caused by death—by no means an every day's easy task; the cause of death in the stillborn or the premature child; the proofs or disproofs of infanticide; the explanation of sudden death in the very young. There is not often a harder task than to determine the cause of sudden death in a baby one or two weeks old, or the discrimination between a death from so-called natural causes—the size of the thymus gland, lymphatism, Bright's disease, no one of which had been recognized during life—and from suffocation by the bed clothing or by the body of a sleeping mother. Injuries, violent deaths in the young and old, are known to belong to the coroner's duties. The discovery of poisons is one of the most difficult tasks of the chemist. Morphine, strychnine, and the poisons of putrefaction have many similar symptoms, and must be discriminated. The responsibility of physical defectives belongs to the coroner's domain—a murder may have been committed in the first attack of epilepsy; simulation must be diagnosticated from actual disease, and the results of infectious diseases of the most common type often lead to crime. All this must be well understood to distinguish the *sick* person from the *criminal*. It must be known that many temporary and permanent insanities follow influenza, typhoid fever, rheumatism, and erysipelas—even pneumonia.

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All this and much more belongs to the office of the coroner, as it should have been these thirty years. Will you tell me that in doubtful cases scientific experts may be called in? Indeed, they may; but these are expensive jobs, and to no other purpose than to legally aid the legalized ignorance of coroners and coroners' physicians.

Whenever there is a doubt and high authority is required on the continent of Europe, the universities—legal or medical faculties, as the case may be—are appealed to. I see it coming that we shall have, if possible, still more weighty authorities. Now we have our experts, our universities. When the country will have one or two more Rockefeller Institutes, I trust we shall have no more decisive medical authority on mooted points on the globe.

In conclusion, for the time presses, the law requires neither in the coroner nor in his physician, a predetermined amount of technical or scientific knowledge. Neither of them is, or must be, prepared for his work, as matters are at present. Mistakes, incompetency, must be the result. No blame may, perhaps, be attachable to the officers; for the temptation to take office is too great. Some of us do not object to being the servants or masters of the people at the people's expense. That is where the principal danger is to the Republic. The community, however, wants as absolute safety as progressive science can give. The legal aspect should always belong to the police and the district attorney.

And, finally, Mr. Chairman, if *this* bill fail for some reason or other, see to it that there will be no legislative session without one to the same purpose—that purpose is the abolition of the office of coroner.

ADDRESS ON HANS KUDLICH

HANS KUDLICH's name is intimately connected with one of the great deeds of the century. Although he was not permitted—as he had hoped—to drain the cup of freedom to its last drop, he emancipated the peasantry from the sneer and scourge of the times and from the oppression of the powerful. What this signifies, one of the speakers in Hoboken made clear to you a fortnight since. The memory of it always recalls to me how it brought tears of anger to my eyes as a boy. In Zimmermann's history of the peasant wars it is related how the nobles in the vicinity of Würzburg strung up hundreds of hungry, rebellious peasants. A young fellow complained: "Am I, a wretched little peasant, to die without ever once in my life having even satisfied my hunger?" Centuries later, a young peasant, like this one, had to come to satisfy the peasants' hunger and to break their chains.

Since that time he has lived not only among us, but as one of us. Men of succeeding generations have respected him, women and children have loved him, without suspecting that they were associating with one of the great ones in history. The resounding wave of enthusiasm which often greeted him on the other side occasionally sent its echoes to these shores, but the mention of it evoked from him at most a humorous disclaimer. Recently, when the threatening clouds of banquets, receptions, and diplomas began to gather on the horizon, he wrote to one of his friends: "They are going to offer me celebration with drums and fifes; but I shall confine myself to my good little Hoboken and its societies." But that good little Hoboken squared accounts with its great citizen. The celebration was the reverse of small; it was metropolitan in character.

And to-night, dear friend, there are some more drums

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and fives. Above everything else, we thank you that you came. You will concede that whatever will be said regarding the Revolution of 1848, or in the way of retrospects or prospects, will evoke a deeper interest and greater sympathy on the part of the audience in the presence of one who has himself advanced by at least one act the drama of the social, moral and intellectual progress of humanity. And this evening would be devoid of value—an ordinary evening of eating and drinking—if it did not evoke higher sympathies and interests. It is characteristic of all revolutions that ultimately they secured but a small portion for the common weal of that which they seemed to have attained at one assault. The great French Revolution did not achieve its greatest purpose until the Monarchy of July, in connection with the clearing storms that passed over the European morass. The Revolution of 1848 seemed to have failed of all results, with the exception of the emancipation of the Austrian peasantry, when ultimately, after several dozen years and great historical events, a piece of German unity was won, though without much constitutionalism and much less a republic. The history of that revolution cannot be told to-night; but the question, so often propounded: "Who made that Revolution?" should be properly met. A true revolution is not made; it is here. An earthquake is not made. And no leader, no superior intellect, has ever made a revolution.

The abiding progress in insight, individuality and faith is accomplished—whether slowly or in a revolutionary outbreak—in the people, and not in the intellectuals or higher officials, who either represent individually merely the sum of the results accomplished, or, at most, act as a lever, or yeast.

Were it otherwise, Washington, Hamilton, Jefferson had lived in vain, for Hanna, Platt and Quay would be occupying their place. Were it otherwise, Grover Cleveland's firmness, character and sense of duty could not have confounded the machinations of his own party. Were it otherwise, Carl Schurz, without official position, without influence in Wall Street and Mulberry Street, supported only

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by public opinion, the sense of justice and instinctive insight of the masses, could not have succeeded in strengthening and refining the moral tone of our politics. And what of Abraham Lincoln? In his immortal fight for the very existence and soul of the American nation, he was satisfied to follow the people in the solution, aim and accomplishment of the end sought.

As in physics so there are in the brain of men and in the masses imponderabilities that are known only through their omnipresent, all-powerful and pervading action.

How low would be the level of our German Fatherland were we to judge it only by its visible leaders! For these do not grow simultaneously with a new generation or with a new century. At the beginning of the century, Stein; at the end, Bismarck and Miquel. At the beginning, Fichtè, the philosopher of the German nation; at the end, the vain and deluded Nietzsche. One hundred years ago, Schiller and Goethe, Wallenstein and Faust; to-day, Sudermann and his "Sturmgeselle."

Nothing in the world is stable and, consequently, progressive except the people and science. The people is truer than the great ones of the earth, truer to itself and truer to its ideals. There is not much to be read of it as yet in the newspapers. But *it makes the time and the papers*. It makes history, albeit not deliberately. That which is born in its million-fold heart and spirit and vigorously develops into deeds, that is history. When the steady development is hampered or becomes abnormal, a crisis occurs in the social body. The crisis is called revolution. These crises become less frequent the more uniform the development, the more mature the thought, the more multifarious the ideas and their communication. If the rulers of Europe understood their own advantage, they would prevent crises by endeavoring to render affluence, education and refinement the common possession of all. Therefore, in spite of the fact that the difference in class conditions is becoming more and more acute, among cultured peoples revolutions will gradually become less frequent, and the leveling of interests will be accomplished without bloodshed on a large scale. This will

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probably be the next step in the development of this, our country. With us, a permanent socialistic state will not require a revolution as the moving force—the faith in which I was baptized more than half a century back by Blanqui, and confirmed by my friends Carl Marx and Friederich Engels—but it will be brought about through the melting of interests on the part of those actuated by moral considerations, or possibly by those who are merely clever calculators. This will be the watchword, notwithstanding the tumultuous threatening and shouting of the millions who have been washed to our shores and who do not know our tongue, nor as yet understand or recognize our laws. And then there is a further consolation: there are also some Americans in this land.

He who, without fear of a revolution, opens the doors to a steadily progressing equalization of interests; is a benefactor, let the full realization of his efforts require half-centuries or whole centuries. He who furthers affluence, education, refinement, opens new gateways to humanity. If a revolution attained the desired end at once, well and good; let us hurry and have new revolutions. But the permanent good brought about by revolution is only a trifling part of that which seemed to have been gained on the first day.

No social revolution, conceived of itself; no good Spanish-American revolution put in scene for the rulers merely for a change of climate or of head—or for canal purposes—has ever attained in full that which the most radical had set their minds on. Only culture and thought! The policy of the Southerners, who want to withhold culture and thought from the negroes, is a sin against the future of the South and of the whole country, and may engender a revolution. When Kudlich did away with serfdom he elevated the peasants to the human plane, and left them for the first time free to breathe, free to learn and free to think. Thus the revolutionist Kudlich made use of the revolution—so far as in his power lay—to free the future from revolutions by rendering them unnecessary. Neither individual man nor the people shall generate blood merely for the purpose of being bled.

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The people, the entire people, had made the revolution. Legends have been told regarding the active participants in the revolution. Those in power, who, after the 14th and 18th of March, greeted the people as the successful, glorious and victorious revolutionaries, "knew" perfectly well a few weeks later that the revolutionaries had been merely Jews, Poles and Frenchmen. Then they sat upon the people—to keep it warm, as the elephant did to hatch a nest of chicks. And many pretended to be writing history when they were merely inventing or retailing stories. Such a legend is the one that tells of the active and extensive participation of the university youth. On the whole, this, I regret to say, is a fable, with the exception of the Vienna legionaries—of whom you have known Burian—and of whom a great many were sacrificed after it was too late and entirely futile; but who in the midst of storm and stress will stop to think? There was no revolutionary tendency among the students, with the exception of Schaeffel, who fell at Waghäusel; Dortu, who was shot at Freiburg; Schurz, who escaped imprisonment and worse by dint of perseverance and shrewdness; and of a few liberal student bodies like my own "Alemannia" at Greifswald, Schurz's "Franconia" in Bonn, and a few others.

Were it but possible to forget the "Alemannen" of Munich, who made themselves the advocates of Lola Montez!

There was less enthusiasm and less devotion among the students of the fifth decade than among those of the third and fourth decades, when Fritz Reuter, Tollenius and Fritz Kapp were studying—not to speak of the wonderful patriotic eagerness of the students at the time of the wars of liberation, in 1813-1814.

And what can be expected? So long as the honor of the student permits or demands that he jostle the civilian and call him philistine, so long as a great number of the songs he sings in his Kneipe are drinking songs or worse, so long will he be devoid of any sense of intimate coherence with and respect for his own family, the citizen, the people. The dashing students of my period, therefore, became the best servants of the State, according to Bis-

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marck's views. Whatever liberty they wanted they had had in overflowing measure at the university. The prosecutors in the Communist trials at Cologne, and in the much more horrible Rostock trials, were all former dashing students. When I witnessed a performance of Alt-Heidelberg, tears of rage rose in my old eyes. In this play the loud, noisy, thoughtless gayety of the students is promptly transformed into toadying and servile shrinking the moment their fellow-student—against his wish and merit—becomes a reigning prince. How much better does the prince appear than his former boon companions, now all submissive devotion!

Of course there are differences between students and students. May fate grant that what I experienced with and among my fellow-students in the years 1847-1851 was but a passing phase. I will gladly concede that among my colleagues here in New York I know many who would have been worthy to live, work, win, escape, be imprisoned or shot, in 1848.

I will not close the chapter on students, however, without recalling the great number of those who, in 1848-50, joined as volunteers in the Schleswig-Holstein movement in the interest of a great patriotic idea of unity. Their whole history can never be written without the fullest meed of praise for the Von der Tann Volunteer Corps.

We New Yorkers have special reason to remember some of the old students of that period. The history of Oswald Ottendorfer is familiar to most of us. Two periods of his life touch us most deeply: his youth, full of enthusiasm and ready sacrifice for the cause of the people's liberty; his flight from Vienna; his participation in Dresden, his flight to America, where I first met him at 214 William Street, behind the desk of the little *Staats-Zeitung*. The second period was his advanced age. He had at last, after a long life, much work and many doubts, reached maturity of judgment, independence of position, a consistent and unshakable opinion in matters of politics and historical philosophy, and rendered immeasurable service to Germanism in the United States. And what shall I say of Ernst Krackowizer, except that the world,

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and especially America, were better because he lived? Few of us will be remembered twenty-eight years after our death. He, however, was possessed of the spirit, the heart, the force and consistence of antique Roman virtue combined with modern scientific attainments, the purest unselfishness, the most touching simplicity, the courage to fight as well as the ability to yield, cultured in every direction, steeled for every battle. The enemy of Tammany, first, last and all the time, particularly when it was victorious. A Cato who stood by the losing side, not, like the so-called gods, by the winners. One of those of whom the poet says: "That man we hold as the best who straight and upright stands." How it hurts almost never to come across his picture here in New York, where he was of almost prophetic importance! Austrian peasants are a phenomenal race. In every peasant's house you will find hanging a picture of Hans Kudlich. When the association of old German students in New York plans, some time, to beautify its quarters, gentlemen, give a place of honor to the picture of Ernst Krackowizer!

Hans Kudlich! you and I and the cause of the whole people, we have never had and never lost a better friend than Ernst Krakowizer. And now, dear Hans Kudlich, comes the best of all. I am done. At least for to-night. But not without imparting my wishes to you, and you will be good enough to let us know on your 90th birthday, etc. (for we all intend to be there), whether they have been fulfilled: These wishes are: First, preserve your teeth—we may still need them; second, do not have the hair on your teeth cut; third, keep your German neck stiff!

ADDRESS BEFORE THE GERMAN MEDICAL SOCIETY

Mr. President and Gentlemen:

AFTER having declined several months ago, first by telegraph and then by letter, the unexpected and flattering invitation to accept a German professorship and clinic, and after this news had been later published in the daily press, and announced in a short notice in the scientific journals, your society was so kind as to return to the subject and has found it proper to express to me in an artistic and richly elaborate address its satisfaction over my remaining here. No less a person than your president, together with another member of our profession, took it upon himself to deliver the same to me, and he took occasion to express to me his own and your sense of good will in exceedingly flattering and respectful terms. Only on one other occasion was there anything similar publicly spoken of me. This was when Dr. Caillé made certain remarks at the presentation of a portrait of myself to the Academy of Medicine. I shall now utilize the privilege of the floor to express to you, Mr. President and gentlemen of the executive board, and to you, my colleagues, my warmest thanks for the honor you have shown me, for at the time when your committee honored me with its visit, I was hardly able to master my surprise and my emotion.

A few weeks ago, while on a very short visit in Berlin, I had the privilege of accompanying for a short while Henoch's successor, Professor Heubner, from Leipzig, while he was for the first time making his rounds through his wards. With a certain sense of longing did I look at the rich material found therein, to which there belongs, besides, a large polyclinic situated in the midst of other clinics, laboratories, etc. I also noticed the readiness with which the government entered into all plans proposed by the professor with regard to the changes in the buildings and

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the sincerity with which the faculty collaborated with him. As regards myself, I believe I have known since last fall, and recently through personal intercourse, that I would be a welcome guest, all the more welcome,—as two gentlemen told me independently of each other,—because they hoped to get in an entirely new and in some respects a different element; as they put it: “You would have brought us some spirit from another world and could be of much use to us.”

At the present my answer could be shorter than six months ago. Even to-day I can only repeat, that I do not believe, were my emigration morally possible for me, that it could be accomplished with the same ease as if I should simply change one German university for another, like Heubner, for whom, however, according to his own words, it was difficult to make up his mind to leave Leipzig. However, when a German professor changes his place he does not change his political and social horizon, while I would have to do it. But *coelum non animam mutant qui trans mare currunt*. After having left my chair, forty years ago, in a Prussian prison, a chair in a Prussian educational institution would perhaps be for me an honor as doubtful as it would be great.

Besides, I believe to-day, as I did when I spoke to my Berlin friends, that they have over there a number of men who would be willing and able to fill the position at least as well as I, but that I may still be of some use to America and have a certain place to fill. I am not so conceited as to suppose that when at last I am gone the place which I endeavored to fill as a German-American physician will remain empty in the American medical world. For if it is a question of supplying German blood and German spirit to our newly acquired fatherland and to the American medical profession, all I have to do is to look about me in this society, where we have some men of international, many of national fame, many men now occupying places as professors in various hospitals, and none who does not fill or would not have the ability to fill an honorable position in a worthy manner. But we need the co-operation of all, and therefore my own work is still far from being superfluous.

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For the sake of illustration only, I shall remind you that the progress in medical teaching and in medical educational institutions lies in great part with the medical profession and not with the schools. I shall remind you that we had to work twenty years to have the principle of State examinations made into a law, twenty years to establish the requirement of an ever so modest preliminary education of our medical students, from three to five years to overcome the open and secret opposition on the part of the representatives of two out of the three large schools of this city. But your honored address tells me that I have made myself useful, and as you thought it worth while to give me your attention, I shall ask you to allow me a few moments to express myself partly about myself, partly about general principles. I consider this opportunity as a favorable one; I believe that I have not often spoken about myself, and so to-day I shall be as brief as possible. I am well aware that *senectus loquax est*, and must take care not to appear a *senex*.

Still I have been in practice in this city for more than forty years, longer, luckily for you, than most of you can boast of years. Forty years ago I joined the old Medical Union, which has long since disappeared from the state. I have been a member of the Academy of Medicine and of the German Dispensary (and hospital) these thirty-seven years; of the Pathological Society these thirty-five years; of the Obstetrical Society these thirty years; of this society and of the Medical Society of the State of New York something like twenty-five years. I have been public instructor for thirty-four years. During this long time I have endeavored to be one of the pulses in which throbs the life of the medical profession of America and one of the canals which should join the streams of foreign and native minds. Luckily I was not alone in this self-appointed task. My master and model was Ernst Krackowizer, whose absence we feel even to this day, although he has been resting in his grave almost these twenty years. His mantle might have fallen on the shoulders of many who are more able than myself, but of none who would be more willing to assume the inheritance.

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After my arrival in this country, more than forty years ago, my only public activity consisted in my membership and secretaryship in the Medical Union, in which position I was succeeded by Dr. Schwedler. Not counting Dr. Schnetter, who resides in Germany, Dr. Schwedler, Dr. Detmold, and myself are the only survivors. Even the young men among you remember the presence of Dr. Detmold in our midst some years ago at the reception which was tendered to Esmarch, in Arion Hall, and the warm words in which he then addressed us. The most renowned older representatives of that society were Detmold, Henschel, and Gescheidt. If I should tell you that von Roth, L. Voss, and Ernst Krackowizer were members of that society, and have at all seasons nobly acquitted themselves, as practitioners, in the literature, and the American medical societies, you will understand the respect with which the name "German physician" suddenly began to command. It was otherwise formerly. Before the time of the Vienna school, and especially before the time of Virchow, who has made the whole world talk of him this last few years, the name of German medicine, engulfed as it was in mysticism and so-called nature philosophy, had a suspicious ring in the ears of the calmly observant practical Anglo-Saxons of both hemispheres. All this had suddenly changed, and the by no means smaller number of German quacks and semi-quacks who drove their trade in America and some half-baked students of German origin who had deserted to homeopathy, who formerly had brought the name of German physician into disrepute, had ceased to serve as criterion. Those of you who still remember the honorable position occupied by von Roth, Voss, Krackowizer, Noeggerath, will understand to what extent my way had been made smooth for me. One had only in fact to be a German physician, be willing to work, be engaged in scientific subjects, deport himself like a gentleman, join American societies, in order to be considered as an equal by the oldest and most honored colleagues and to be pushed onward to the front ranks. With a deep sense of gratitude I thus remember John Francis, Valentine Mott, Isaac Wood, Batchelder, Watson, Gordon Buck,—and I still wonder

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at the surprising rapidity with which I was promoted in various societies, even to the presidency. For the rest, I had just as little leisure as my above-named German colleagues. We must not forget, however, that my situation was not at all a difficult one. In fact, had I done nothing else than supplied the bridge between a part of the German medical literature and the native medical element, no toll would have seemed too high for the gratitude of the beneficiaries. For at that time the knowledge of the German language was but little spread, only much later did the young men of America go in troops to Germany to fetch for themselves both the language and the medical science. Only since that time have the German journals been regularly and liberally abstracted, and the literatures of the widely separated countries have become one world-literature. To-day conditions would have been different. Had I been my own Epigone I should have undoubtedly met with greater difficulties. The wide dissemination of the knowledge of the language, the easier intercourse with Europe, perhaps also the increased difficulty of making a living for the young general practitioner; the increased competition, greater envy and jealousy, perhaps also a more developed clique spirit, which is never wanting, not even here, where the struggle for existence makes the narrow spirits and mediocre abilities form close cliques for themselves, locking the outsiders out—all these factors have perhaps multiplied the obstacles that are in the way of the modest single-handed beginner. In spite of all this, in spite of obstacles, we see from year to year, and just among the members of our society, how knowledge and skill make way for themselves. *Nomina non odiosa*. We stand now shoulder to shoulder. The undervaluation of that darkest time, the over-estimation of the succeeding period have come to an end.

But what has not come to an end, what should not come to an end, is the sense of gratitude for the existence of a country which in good and evil days has opened its hospitable gates to the one persecuted by the police, or driven by hunger for bread or an atmosphere of liberty, or the one seeking for a wider circle of activity; and the sense of appreciation for a medical profession which, under the

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influence of the political and moral atmosphere of its country, knows nothing of exclusion of the stranger and readily opens its arms to him.

The oldest among us have seen or experienced hard times in the course of our national development. They have observed how, hand in hand with the political progress, the medical profession has, from decentralized beginnings, gradually gained an acknowledged, honorable, and scientific position. What has always seemed to me to be desirable is a universal recognition of the fact that each one of us has both the right and the duty of making himself active in three ways. We must not merely belong as citizens to that political and municipal community to which we owe our air, life, and elbow room, but we must be of service to it according to our abilities by participating in the labors undertaken in the interests of the common weal, it being a condition necessary for our own welfare. We must not keep aloof from the medical profession as individuals, but must take part in matters of general interest and not forget that the advancement of the interests in honor of the profession enhances that of our own. As strangers to these shores, we have in the third place to fulfill the duty of returning thanks, a duty which behooves all whose life has been broadened through the opening of new vistas of political, social and scientific possibilities. As Germans we must also remember that we have just as many duties as we have rights. Considered as the constituent elements of a nation, we, properly speaking, bring nothing entirely new to the *American* medical profession. There no longer exists any overbalancing national medical science, as was the case at the beginning of this century, when we had first French, and later German medicine. Whatever the cause, the work in the domain of science has become more and more uniformly international. What we to-day still bring with us is, besides the impalpable yet strong influence which all that is foreign in language, ethics, and ideals exerts on the native mind, our own individual labor. We Germans have the advantage that our great number must exert a larger influence on the shaping of the future of America, the rôle of the single individual not being of any particular im-

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portance. But the smaller the individual importance of the unit, the greater becomes his duty and his responsibility. I should particularly like to say to my younger colleagues, that this point of view at the basis of my work during all my life. If with approaching old age I may look back with satisfaction to anything, it is just this fact. One does not expect to gain anything by it, yet one gains much. You have yourself offered me the proof of it. This proof consists in the fact that I am permitted to stand here before you, not indeed to acquaint myself of the duty of gratitude, but to give it feeble expression—gratitude for the fact that in the transmission of this address you have shown me one of the greatest honors of my life.

REMARKS AT THE OSLER DINNER, MAY 2, 1905

YEARS ago, on some public occasion, the subject of to-night's onslaughts commended me for having passed six years of my post-graduate existence without writing, or rather publishing, a single line, and seemed to congratulate those whom it might concern, upon my discreet literary behavior then and ever afterwards. Him, however, I praise for having written and not having ceased to write these several decades; for him art has certainly been long and opportunities he has not allowed to be fleeting. Indeed, I have spent the better part of an afternoon at the library of the New York Academy of Medicine in the pleasurable occupation of copying the titles of his books, and lectures, and addresses, and pamphlets, and papers.

But lo! and behold my disappointment. A part of his books, of which there are, after all, only a dozen or thereabout, in fifty or more editions, he has not even produced himself. For you will admit, and he must confess, that it is only the first editions that should be credited to the author; all the subsequent ones are due not to him, but to the greediness of the public. There are even those who pretend to know that he is no better than a tyro in publishing, in that he never had title pages ready for binding, after every fifty sales, with the inscription: "second thousand," "twentieth" or "ninetieth thousand."

Of cyclopedias and translations that he kept going or aided in keeping going I counted only fifteen; his shortcomings, however, are most surprising in connection with his journalistic sterility, as compared with the rest of the world's journalistic output. We take in the New York Academy's library one thousand medical (excuse the word, it does not always fit) magazines; the affliction of the Surgeon General's library is still more lamentable. Now

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imagine, there are many hundreds of them to which Dr. Osler never contributed so much as a line. Indeed, I could not mention the names of more than forty (British and German included) that can boast of his name on their indexes.

You see, therefore, that you have reason to be displeased with some shortcomings of the much-praised and much-loved man. For there are really a great many things he has not said—the James Jeffries of the perilous yellow variety of the press had to do it for him; there are many things he has not done, many books he has not written and many addresses my “equanimity” is reluctantly forced to admit he has not delivered.

You all remember that your friend Horace, when you were young with him, said it was difficult not to write a satire. On the strength of that he found it easy to write as many as eighteen, and cut right and left. Our criticism of our guest should, however, not be altogether adverse; indeed, there are five hundred here who are of the opinion that no encomium heaped on this friend of ours could exaggerate his deserts. Still, I know how to excel Horace, for though it be ever so difficult not to pronounce a eulogy, there will be no eulogy of mine here to-night.

I want our guest to feel comfortable amongst us. That is why I shall become as little personal as possible; and as the occasion is propitious and you are bound not to interrupt me except on the strongest of provocations, I shall merely try to draw the picture of a medical man such as I have carried in my mind all my life as an ideal to be coveted but never to be realized by any but the physician whom Plato “calls godlike,” provided he is at the same time a “philosopher.”

Let us imagine a boy with a healthy body, a sturdy heart and an open mind, with as thorough a general, in part classical, education as the training of two decades will afford. His information is drawn both from books and through his trained senses. That young man's inclinations will be toward natural sciences, anatomy and biology; in his clinical studies toward etiology. Perhaps

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he remembers from his Aristotle, that "whoever sees things grow from their origin, will appreciate their nature and beauty," and is slow to stop before a problem that appears to be beyond a solution. His clinical work as a student and a graduate will be carried on upon the same lines. In later years his hospital will continue to be a school to him, but at the same time a temple, at whose doors he will leave behind him selfish motives; he will give the same time and attention to the poor that he bestows on those outside; where he looks for knowledge he will do so without making the patient recognize that he is a means to an end; he never forgets that the poor in a hospital, cut off from the world, has nobody to rely upon but his doctor; and his soul goes out to those who suffer most. Indeed, let us of the hospitals not forget that in that way two thousand years ago Christians were made, and now-a-days socialists and philanthropists. Many of those who greet us with hungry looks are dying or going to die. Indeed, "*morituri nos salutant.*"

In his private relations he will prove what he is, a gentleman. The Molière period of wigs, and big talk, and sophistical bravado, the food of the credulous, has or should have passed. Still, you know there is much credulity left amongst the well-clad and well-fed classes whose education is limited to what their mental blinders allow them to see inside and outside of legislatures. There would be less of it if medical men would talk to the people less Greeks and Latin after the fashion of an ill-trained or over-trained nurse, and more common sense in an intelligible language. Indeed, it is easy to explain in simple words what we clearly understand ourselves, even to a legislative committee solemnly considering the needs of the people. To that class of plain speaking osteo- and kinesiopathy do not belong. That is why they mean nothing beyond ignorance and quackery.

While doctoring with therapeutics, remedial and others, our man will sustain his patient with words and looks coming from his heart, making no cheerless prognoses within hearing, and though his own temperament and

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foreboding be gloomy, not letting the patient suffer from that source. For indeed there are those who, like Osler's friend and companion, Thomas Brown, are of the opinion that "*mundus non tam diversorium quam nosocomium videtur, moriendi potius quam vivendi locus*. The world is less a place of delectation than a hospital, more a spot to die than to live in."

In consultations, before and after them, he cannot help being strictly ethical. While he recognizes his duties to the patient, he owes regard and respect to the colleague. The complaint you sometimes meet in the lay public, that there is too much etiquette amongst doctors, is flimsy. I wish there was more of it. No patient was ever harmed by the attendant or consultant behaving like what they are or should be, gentlemen. A consultation should be a pleasure, a lesson, and a support to the attending physician.

What our friend practices himself he will teach his students in few words, but incessant examples. Perhaps he remembers his Seneca: "*Longum iter est per præcepta, breve et efficax per exempla*. Precepts travel slowly, examples swiftly, by a short and efficacious cut." There was my good old Frederick Nasse; his kind looks and words, his gentle smile—they have all gone these fifty-four years, but are ever present to my mind. At the bedside, in the quarters of the city poor, or in the wards, he was the friend of the sick, our friend, with the same kindness, geniality and urbanity that have since warmed my soul in the hospital wards of—Johns Hopkins.

As he instructs students, so he teaches his colleagues in the profession and in professional chairs. In so doing he is always kind, but not always in *their* way. *Amicus Plato, sed magis amica veritas*. He loves Plato, but what he loves more, is truth. As a member of medical societies he is active, no committee work is shunned though a smaller man might do it, nobody is more energetic in filling the programme of an evening, nobody more conscious of the good medical societies can do to themselves, their members and the public, and nobody more eager to disseminate his own convictions of their important functions.

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This teaching, however, is not inclined by the fences of his acre or his town. He is of the apostles who are told to travel and instruct and edify. He goes round about the villages teaching. He is here and there and everywhere obeying the invitations of those who want to look into his eyes and listen to the spell of his voice. A thousand miles are to him like one. To him medicine is no private or narrow business; he is the statesman in medicine, which to him is not a trade, but a vocation and a religion.

I take the man I speak of to be an American, one of us. He looks about and finds it is not all good. Having spent his labor, time and genius on improving the facilities of teaching and learning, he may succeed to the extent of his own locality and school, but he cannot change what must be brought about by the slow progress of laborious and general evolution. When he says publicly and as often as he thinks it may do good, not that we have no great men nor efficient teachers, but that the clinical facilities and methods of almost all our undergraduate schools are behind what they were in Europe fifty years ago, he is found fault with, perhaps ostracised. The least that is said against him is that he betrays our secrets to foreign lands. They forget that it is not he that betrays our conditions; it is our students, our young graduates who, by crowding into our own post-graduate and the European clinics, proclaim as it were from the housetops that they came to seek what they lack at home. You must have noticed that the emigration to Europe of our laboratory students is no longer as numerous as it was years ago, but the search for clinical advantages has not abated. So if you meet a preacher in the desert, do not stone him. In ten years, or twenty, we shall admit he was right. Perhaps it may dawn upon some of us that what we took for invective, was the sensational lie of a penny-a-liner spy, and what our distrust mistook for a frown was the pity and sympathy of a humorist.

As he works for the future so he looks back into the past. A science, a profession is best understood when studied in its origin and gradual unfolding, like the human organism, which is never comprehended except through

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the study of the embryo and the child. The history of medicine is to him, however, only a link in the chain of human events, one of the most important parts of universal culture, in which wars and kings are only upheavals and incidents. That is why it should be studied by the people at large as a part of their education. It will be understood when presented in a comprehensible form. You all remember the classical histories written by William Osler on the internal medicine, and by W. W. Keen on the surgery, and R. T. Chittenden on the physiological chemistry of the nineteenth century, and published by the *Sun* four years ago.

My medical ideal does much more. The loving connection between medicine and the world, between the profession and the public, is not platonic, it is active. Being a conscientious citizen of the profession he feels his obligations as a citizen of the state and of human society. He will work for the consolidation of the profession, for the suppression of quackery and all *other* forms of infectious disease; for the improvement of our school system, our streets, our subways and water supplies, for the repeal of bad laws, and the introduction of good bills.

That is what your ideal medical man will do. Smaller men must be satisfied with performing only a share of it. But none of us here or elsewhere has a right to shun common duties. Next to performing great tasks is for us who cannot reach the highest aims, the ambition to work in their service. Ideals are not reserved for those who walk on the mountain tops of human existence. No man or woman should be without a heart, nor without an ideal, and the sense of responsibility to the Commonwealth of which they form a part.

Doctor Osler! Have I involuntarily drawn some, or many, or most of the outlines of your picture, or have I not? I do not know, but I could not help, while speaking, beholding you before my mind's eye. Still, being neither an orator nor a poet, nor a savant like yourself, I know my language cannot reach my aspiration nor your deserts. Do not explain, or excuse, or deny, either seriously or humorously. Your natural gifts you are not responsible

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for, so there is really no need of an apology. The life-long work you invested in your aims and ideals has ever been a labor of love and no hardship. You have not exerted yourself to earn thanks, and expect none. So when you enjoyed your incessant and fruitful toil we have sympathized and profited. When you, fulfilling the obligations to science, the profession and the world, found inscribed what in the innermost of your heart, added to the riches of mankind, we have admired and harvested. Your character and learning, your sound judgment and warm heart, your generosity and consistency have gained thousands of friends. Friends made by such as you are not of the everyday stamp. There is nobody here or outside that came near you that has not been attracted, improved and inspired by you. These are simple statements in the plain everyday words of one who, being so much older in years than you, was glad to sit at your feet and will listen to you, no matter whether you are heard in Montreal, Philadelphia, Baltimore or Oxford. As a sort of explanation of your intellectual growth and success, I have heard you speak of your indebtedness to favorable circumstances, and to the influence of your descent. Be it so, for as your friend Thomas Brown, without, I believe, thinking of you, said three hundred years ago: "*Non mediocris felicitatis est ad virtutem nasci.*" (Sent. 11 p. 11p. 178 Merryweather.)—"it is no mean felicity to be born with the imprint of virtue." So your heirloom has actually become ours, indeed; and we take pride in it almost as much as yourself. What your father and your good old mother, who are often on your lips, have done to shape you, they have done for us also. Tell her we send her our greetings, the expression of our reverence, of the wish that she may, as we do now and ever, enjoy her son long after this, her 97th year, and of our gratitude to her, the British mother of one of the greatest benefactors of the medical profession of America.

ADDRESS BEFORE THE MEDICAL SCHOOL OF MCGILL UNIVERSITY

For my presence here and the permission to address you, I am indebted to the kind invitation of your faculty. They have prompted me to speak to you, my fellow students, of medical education in my early days, of my contemporaries, medical and lay, and some other subjects. Unfortunately, that theme demands that now and then I shall have casually to mention myself, not as a co-operator, it is true, but as an interested looker-on, when great things happened and good and great men worked for the realization of what you in these days are harvesting as a spontaneous and legitimate heritage.

Indeed, I have lived under the eyes of and with great men and during the very development of modern medicine. The history of these times should be known to every student of medicine and of social science, for truly as we cannot comprehend any country without the knowledge of its origin and the circumstances in which it grew, and of the men who thought and fought for it, so there is no way of understanding and appreciating modern medicine without a fair acquaintance with its annals.

What you are expected to learn in four years is a part of the results of previous labors performed during hundreds, aye, thousands of years by legions of men of industry, honor, and sometimes genius. What any single generation of men has created, however, should be considered an episode only. Part of such an episode I shall, at the suggestion of the great and good men assembled on this platform, recall to your mind as belonging to our common history.

I began the study of medicine only fifty-eight years ago. Now, you have often noticed that in a clear atmosphere a distant height separated from you by ever so many extensive ridges and deep valleys that your weary

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feet have measured ever so often, seems to you near by, almost within reach. Thus that early time appears to me, looking backward these six decades replete with the exertions of persevering men working in the same direction, for the same ends, in different ways it is true, in laboratories and clinics, all in behalf of the welfare—individual and collective—of mankind.

I studied medicine in the three universities of Greifswald, Göttingen, and Bonn from 1847 to 1851; vegetated in Prussian prisons until 1853, and tried to practise medicine in Manchester, England. But Old England and I did not get on very well with one another—at least I did not—and since the end of 1853 I have enjoyed the always generous hospitality of my second and kinder motherland, the United States of America. That is all there is of *me*.

Some of you may be interested, however, in learning why any young man should study in three universities, in place of one, as is the custom with us. Part of the German universities date from the Middle Ages—those of Prague (1347), Vienna (1365), Heidelberg (1346), Cologne (1388), Erfurt (1392), both of the latter now extinct, from the fourteenth century. The more recent ones have readily adapted themselves to the inherited customs. The search of adventure, the eagerness to see distant or foreign parts, or the reputation of a famous teacher would draw hosts of young men away from their firesides and neighborhoods. A personal instance of that I may be permitted to mention. When I left the “Gymnasium” I knew the world from books—that is, not at all. A few miles adjoining my village and my college town formed my actual horizon. So I selected a university on account of its distance from my home. Even in that respect, however, I could not satisfy my longings to their fullest extent; for the two ends would not meet, that is, the fare between my village and Königsberg was excessive compared with my means.

Now, when I had been in Greifswald three semesters and had taken a bird's-eye view of what medicine might imply, I felt the necessity of studying more chemistry,

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and pathological anatomy. You wonder, you men of the twentieth century, what I may mean. Now, at that time there was no Adami at Greifswald. There were, alongside of Vienna where Rokitansky taught, only two places in all Germany in which pathological anatomy could be learned. One of them was Würzburg, there was Virchow; the other was Göttingen, there was Frerichs. So to Göttingen I went in search of pathological anatomy. My notes of that year and my clumsy drawings I still esteem very highly. At the same time I looked for the advantages of chemical laboratory work under Wiggers and Wöehler. You see, I have already mentioned to you names that will never disappear from the history of medicine. In Göttingen I remained a year only, on account of the inferiority of its clinical instruction.

Our senior professor of clinical medicine, for instance, was never satisfied until he tortured out of every patient the admission that some time or other he had taken a drink of cold water. A "cold drink" was his universal etiology. In that respect he was worse than even Cotton Mather, who, according to William Sydney Thayer's interesting paper in this September number of the *Bulletin* of Johns Hopkins Hospital, knew all about hell—for other people—and witches and something of medicine, and preached: "Never take water, or anything else, cold, when you are hot with labor. There is death in the pot."

It is true Wilhelm Baum had come from Greifswald to take the chair of surgery, but I wanted modern methods of clinical diagnosis, such as Friedrich Nasse was teaching, guided by the French and the new Vienna school. So I went for my last three semesters to Bonn. This custom of changing universities had and has the disadvantage of precluding devotedness on the part of students to their alma mater and substituting, if anything at all, the attachment to a revered and famous teacher. Besides, in Germany, all the universities are government institutions. There are no medical schools unconnected with a big state university, and there was and is no personal, no heartfelt interdependence between the student and his intellectual mother.

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But for Germany this interchange of universities may have had a good political influence, though it was counteracted by the ambitions, greeds and jealous tyrannies of the hundreds of principalities finally overthrown by the first real Napoleon a century ago, and of the thirty-eight territorially or mentally and morally inferior countries of my time. Even to-day, you know, they have not yet consolidated into a united Germany, and never will until Germany will be a republic. Young men would congregate in a university from all parts of Germany and could not help being influenced by diversified intercourse. I have no doubt that in spite of the demoralizing influences of the absolutistic governments, the concourse of young men belonging to distant parts of the country must have exerted, when the time matured, a unifying effect.

Let me now speak of medicine as it was in Germany a very few years before I commenced its study. Stieglitz, an old and learned practitioner, expressed himself in 1840 as follows: "German medicine has sunk so low and is so emasculated as to require any sort of shaking up. Whatever gives it a new direction will be unwholesome, though new errors or possibilities may result therefrom." And Paulus, a professor of theology at Heidelberg, is quoted by Kussmaul as having stated that the philosophy of Schelling, so prevalent during almost half a century, was dangerous to medicine; its influence was "tragic," it amounted to "legerdemain"; medicine was injured by speculations evolved at the desk, and German medicine was inferior to that of France on account of its bad method.

This bad method is characterized in a few words. Like Plato of old, the Germans of several centuries, down to 1850, constructed their theories without a material basis; facts were disregarded or explained away, *a priori* new systems were constructed out of sheer imagination or on the strength of insufficient or distorted knowledge. One wanton system would follow another; not in Germany alone, however. Thus Van Helmont, Sylvius, iatromechanism with Paracelsus as its principal prophet, Fr. Hoffman, Stahl, the Solidarists, the Humoralists, John Brown, Rasori

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and his contrastimulus, animal magnetism, nature-philosophy, Hahnemann, Rademacher, Broussais and Bouillaud, all had to be outlived and overcome.

The actual progress of medicine began when the influence of mere theorizing was broken. Gradually the sterile nature-philosophy of Schelling and the equally unprofitable dialectic contortions of Hegel ceased to draw minds into the abysses of speculation, and German textbooks and monographs were no longer all written in hopelessly unintelligible language. The first part of the nineteenth century, however, belongs to France, its latter half only to Germany. That is why the terms "French medicine," and "German medicine," are unduly prominent in medical terminology. It is only now that we begin to speak of medicine without any regard to nationality. It has become international, cosmopolitan. The fraternization of mankind seems to grow its first roots in science; that, at least, has no Russia of its own to exterminate, or to revolutionize.

I am fortunate in having studied during an active period. Let me report to you what happened in those very few years, and congratulate you upon the wealth of scientific conquests laid at your feet without your co-operation. By so doing, I may impress upon your minds the necessity of paying attention to the constantly increasing results of the work of this very year, of your year, of every year.

In 1847, my first medical year, Hermann von Helmholtz (1821-1894), published his address on the preservation of force; ether anæsthesia was used in obstetrical practice by Hammer of St. Louis (1818-78), in dentistry by Delabarre (1819-1878), of Paris; Justus von Liebig (1803-1873) published his researches on meat; prismatic glasses were employed by Kreke and Franz Cornelis Donders (1818-1889), the great Dutch ophthalmologist; ether and afterwards chloroform were introduced into Scotch obstetrics by James Young Simpson (1811-70), of Edinburgh. The scapula was removed by Sir William Ferguson (1808-77); Faradization was recommended by Duchenne (1806-75) in that form of paralysis which has long been known

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by his name. Unstriped muscular fibres were described by Rudolph Koelliker (born 1817); Semmelweiss (1818-1865) discovered at the autopsy of Professor Kolletschka (1803-1847), who died March 13, 1847, of sepsis contracted during an autopsy, the same lesions that were found in puerperal fever. He also found that in the wards of puerperal women which were visited by the students who worked in the dissecting rooms, a larger percentage would die than in those accessible to the midwives only. They did not dissect. He reduced the mortality, by merely obliging the students to wash in calcium chlorid before entering the sick wards, by more than two-thirds. He learned from clinical observation what Lister learned from Pasteur. He established the contagious character of puerperal fever, like Oliver Wendell Holmes, who in 1843 wrote his immortal paper in the *New England Medical Monthly*. They shared a similar fate, with great differences, it is true. Holmes was, on account of his observations, ridiculed by Hodge and Meigs, the obstetrical sages of Philadelphia, until Hodge and Meigs found themselves alone with their prejudices and ignorant obstinacy, —and enjoyed smilingly the admiration and veneration of the English-speaking world for fifty years afterwards. Semmelweiss was persecuted by Braun and Scanzoni, and, I am sorry to say, also by my friend Späeth, who would not admit that their lack of methods had killed thousands of women and newborn, and was driven out of Vienna and angered into a lunatic asylum. Posterity had to come to the rescue. As a rule, the benefactors of mankind have been crucified or starved; all is considered corrected by a monument.

1848. Crusell (1810-58) expounded the indications of galvano-caustics, mainly in strictures, carcinomata, and ulcerations (Bull. Phys. Math. de l'Acad. Imper. des sciences de St. Petersburg). He claimed chemical effects only, denying the vital action of galvanism.

The quantitative analysis of urea was taught by Robert Wilhelm Bunsen (1811-1899), the same who afterwards, in co-operation with Kirchhoff, founded spectral analysis.

Per Hendrik Malmsten (1811-1883) discovered the

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trichophyton tonsurans (Hygiea VII) and Balantidium coli.

1849. J. Arnott (1794-1885) taught the employment of cold for the purpose of procuring anæsthesia.

Claude Bernard (1813-78) performed his "piquure" of the fourth ventricle and caused diabetes.

Pollender, a veterinarian, discovered bacilli in the blood of animals infected with anthrax, preceding Brauell (1855), and Davaine and Robert Koch (1876). (Ferd. Cohn Beitr. Zur Phys. d. Pflanzen.)

Jos. C. Hutchinson (1827-87) invented the spirometer.

Charles D. Meigs (1792-1869) found thrombosis in veins to be one of the causes of death in puerperal women.

Marion Sims (1813-83) cured a vesico-vaginal fistula.

In 1850 another American, William Detmold (1808-1895), of New York, opened an abscess in the cranial cavity and was roundly abused for claiming an impossible thing as an American swindler, in as high-toned a German magazine as the sixth volume of Virchow's *Archiv*.

The velocity of nerve irritation was measured by Helmholtz.

J. Walker proved the infectious character of secondary syphilis.

In 1851 Helmholtz invented the ophthalmoscope and studied the duration and course of the induced current.

Virchow discovered the sheath of the cerebral vessels.

Bernard explained the vasomotor function of the sympathetic nerve.

Romberg (1795-1873) published his studies on *Tabes dorsalis*.

All this happened while I was a student.

You recognize in my fragmentary enumeration facts of crucial import.

Very soon after my graduation in 1851, however, I was no longer in a position to follow the rapid current of events. So when after years I returned to the world I learned that within two years Helmholtz had measured accommodation, Cohn proved the vegetable nature of bacteria, Schroeder demonstrated the bacterial nature of fermentation, Pravaz invented subcutaneous injection, Ber-

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nard recognized the liver as the glycogenic organ, Vierordt constructed his sphygmograph, Wagner and Meissner discovered the tactile corpuscles, Küchenmeister the connection of the tænia with the scolex found in poik, Bigelow performed the first resection of the neck of the femur, John Hughes Bennet coined the term leucocythæmia, and Moleschott had written his "Circle of Life" (Kreislauf des Lebens), for a long time the bible of Materialists. One of the most important discoveries was that of Funke (1852) and Lenmann (1853), who proved hemoglobin to be a crystallizable unit capable both of binding and of eliminating oxygen.

Thus I found the world was progressing. Medicine had contrived to throw off the fetters of transcendentalism and had embarked irrevocably in its development as a part of biology with only one goal—to seek truth wherever it was, and with one ideal purpose—the benefaction it could bestow on mankind by curing or preventing disease.

There is a trinity of doctrines which have redeemed medicine and made it part of biology; 1st, *Experimental Physiology*. It was founded by the French, mainly Magendie, Flourens, Bernard, Fourget and Paul Broca. England furnished Charles Bell, Marshall Hall, and William Bowman; and Germany, Johannes Müller. 2nd, *Clinical Diagnosis based on Pathological Anatomy*, as developed by the Vienna school. It is represented by Rokitansky and Skoda. 3rd, *Experimental Pathology*, which found its spokesmen in Virchow and Traube, of Berlin. That is why the names of Paris, Vienna, and Berlin are immortal in our science and art. I say, *science and art*. What I want you always to remember is that science and art should never be separated in the consciousness of a medical student and practitioner. Our science is biological; our art is therapeutic, that means preventive, dietetic, pharmacal, surgical, obstetrical; our profession exists for the purpose of therapy. The translation of "therapy" in its most comprehensive meaning, is service, service to the individual or the commonwealth. Cicero tells us: "*nisi utile est quod faciamus stalta est gloria*"

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—unless there is some good in what we are doing the glory of it is sterile; and Benjamin Franklin seems to have translated it in the words, homely but impressive: “What signifies philosophy that does not apply to some use?”

The permanent regeneration of modern medicine originated in German Austria and in Germany about the fifth decade of the nineteenth century; that is the very period of European political and, in part, social revolution. A philosopher would find ample opportunities to demonstrate the equable and contemporaneous growth of diverse historical evolutions. Some of the men who participated in or directed the work, both political and scientific—though in years I was an immature boy—were at that time, or afterwards, my comrades, or friends, or teachers. Personal relations I had none, however, to Rokitansky and Skoda.

Carl Rokitansky (1804-1878) began his revolution of pathological anatomy in 1836 with a paper on intestinal obstruction. (*Medic. Jahrb. des K. K. Oesterr. Staats*). He published the first part of his special pathological anatomy in 1841, and his general pathology in 1846. I wish you would study particulars in any great historical description of our science. You will then understand why pathological anatomy of the human body, as he taught it in all its stages of formation and retrogression—of hyperæmia, exudation, new-formation, and disintegration—was a revelation to the medical minds of the nation, and soon afterwards of the globe.

But even he was one-sided and human. He never could divest himself entirely of the influences of his bringing-up. Humoral pathology possessed him sufficiently to make him create the theory of crases (blood mixtures) which induced him, and still more his followers, to believe in a croupous crasis, which was subdivided into an γ ‘g’ ‘A’ class—an albuminous, aphthous, exanthematous, and a puerperal crasis. His colleague, Engel, fought him; it took a Virchow, however, to annihilate him, and never was Rokitansky greater than when he acknowledged his defeat by the young giant of Berlin.

Joseph Skoda (1805-81) published an essay on pericar-

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ditis in 1834, his first paper on percussion in 1836, and his monograph on percussion and auscultation in 1839. In his studies and methods he followed the great Frenchman, Laennec. It is true he adopted the ontological character of Laennec's reasoning, even crases were adopted under the influence of Laennec and Rokitansky, but both Rokitansky and Skoda cut loose from the verbose ignorance and supercilious stolidity of German medicine. Helm, the obstetrician, Kolletschka, the pathologist, Schuh, the surgeon, and Hebra, the dermatologist, were eager followers and co-operators. Thus you may well imagine that Vienna became the Mecca both of Germans and of foreigners.

Meanwhile criticism was not idle.

One of the involuntary jokers, a Dr. Phillipps, of Berlin, that had not yet been awakened by Virchow, made himself ridiculous by trying in 1845 to ridicule Skoda's work of 1839, and in the same year a Dr. Krüger-Hansen, in "*Praktische Fragmente*," annihilated auscultation in the following way. Listen:

1. A chaste maiden would not submit to uncover her bosom to the inspection of a young Æsculapius who is a stranger to her or who may not enjoy the best reputation.

2. If auscultation were necessary, deaf practitioners who all wish to continue their practice would be badly off.

3. It is impossible to express or to systematize by language, inadequate as it is, the sounds and murmurs inside the chest. Literally, he says, "Any scientist is hereby challenged to express in words the song or the din of birds."

4. It is only a hiding of practical ignorance "for the practitioner to apply his ear and to look learned as if sitting on the Delphian tripod."

5. Only such as have weakened eyes and ears should aid by means of a stethoscope."

6. "How great would be the expenditure for patients living in the country if it were necessary to call a doctor even for one's servants in order to establish an indication by means of a stethoscope."

7. But "if one would send such an instrument into the

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country and ask for a report, how would an uncouth workman who is used to the flail only manage the thing, and what sort of nonsense would be his report?"

8. Auscultating doctors cannot prove that more and speedier recoveries result from the treatment; "if they mean to prove the correctness of their diagnosis, they must first have their patient on the autopsy table."

Remember that was only 60 years ago, twenty-five years after Laennec's publication, six years after Skoda's book appeared, and only two years before I began the study of medicine.

Still the awakening was rapid. In 1841 Wunderlich, with whose name you are familiar, as that of the popularizer of clinical thermometry in his journal and afterwards in his book of 1868, wrote a pamphlet on French medicine and the young Vienna school, and its fertilizing and reforming effect; influential new journals were started by him and Roser, by Henle and Pfeuffer, by the faculty of the University of Prague, and one for pathological anatomy by Florian Heller (1813-1871). Good text-books made their appearance, such as Hoesle's "The Microscope at the Sick Bed," and Gaal and Heller's "Clinical and Chemical Diagnosis."

Meanwhile, what became of therapy? Rokitsansky's, the anatomist's occasional therapeutic suggestions could not possibly mean much; Skoda, who directed the clinical hospital, made a number of poorly managed experiments with drugs which convinced him, whose attention was taken up with diagnosis, that therapeutics was a hopeless problem. The Vienna nihilism had no more outspoken prophet, however, than Joseph Dietl (1804-78), professor in Krakow. Says he, as late as 1851: "Our practical work does not compare with the amount of our knowledge. Our ancestors laid much stress on the success of their treatment of the sick; we, however, on the result of our investigations. Our tendency is purely scientific. The physician should be judged by the extent of his knowledge and not by the number of his cures. It is the investigator, not the healer, that is to be appreciated in the physician. As long as medicine is art it will not be science. As long as there

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are successful physicians, so long are there no scientific physicians. Our power is in knowledge, not in deeds."

Indeed, there were hosts of medical men who never thought of their diseased patients, but only of the ontologic "disease," and looked upon the doctors who wished to save their patients as weak characters and mediocrities.

The upshot of all this was that the patient who you may think in your innocent minds had the pardonable wish to get well, had nothing to do but—

1st. To be percussed and auscultated by Skoda;

2nd. To be autopsied by Rokitsansky;

3rd. To see to it that the diagnosis and the result of the autopsy agreed. This, however, he could not conveniently do, though he was permitted to be present.

And another result was that the public was compelled to apply to homœopaths, dealers in animal magnetism, water-cures, masseurs, gymnastics, or to Johann Gottfried Rademacher (1772-1849), who about the same time elaborated a system taken from Paracelsus by which all diseases were classified according to whether they were curable by sodium nitrate, or by iron, or by copper. That is all diseases were subsumed under the three heads: salt-petre diseases, iron diseases, and copper diseases. His big book was published between 1842 and 1849.

All these either misguided or downright quackish men held out some hope to the suffering and offered some more attractive propositions than merely the autopsy table of the scientist. But the time was greater than they, and the wheel of history moved rapidly.

One of the few men who knew his mind and that of medicine, and had his hand on the pulse of mankind, was Oppolzer.¹ In his inaugural address at Leipzig (1848) he expressed himself in the following words: "Those are greatly mistaken who believe that a modern physician is he who examines a patient most carefully, auscultates and percusses, and is satisfied when the autopsy corresponds with his diagnosis. Such a medical man does not comprehend that the most sublime aim of all medical service is the

¹ From Prague he was called to Leipzig in 1848, thence in 1850 to Vienna, where he died in 1871.

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healing of the sick." I remember the time quite well. It was during my third semester in Greifswald, when the German revolution of 1848 spread over the land like a wildfire, burning in the hearts of many of us; unfortunately, however, unable to burn the tottering thrones. The magazine containing Oppolzer's address had just arrived, an older fellow-student jumped on a table, waved the paper, and cried out: "Here is another revolution, a real declaration of independence. Hurrah for the revolution in medicine!" Never before had any man united, like Oppolzer, science and practice, never was diagnosis made anatomical, or therapy based on indications as by him. Gradually even the patients became dissatisfied unless they were examined and their cases diagnosticated. Luckily for them they are of the same mind at present.

To account for my selecting Göttingen as my second university, I spoke of my search after chemistry and pathological anatomy. Friedrich Wöhler (1800-82) was a teacher in the Technical school in Berlin before he became a professor in Göttingen. It was in Berlin that in 1828 by atomic transposition he found urea to be identical with ammonium cyanate, and thereby became the founder of organic chemistry and the originator of an interminable number of discoveries. As I worked under him several months in succession, I once took the liberty to ask him whether he thought he would some day be able to construct more organic matter out of anorganic substances, for evidently he had proven there was no boundary line between the organic and the anorganic world. The big bright eyes and the wrinkled face of the little man smiled and he said: "Give me time, just wait and ask me again Christmas day—in the year 2000." He did not wait long enough, but still he saw a small part of his teaching put into practice by his pupil, Fr. Hoffman, the discoverer of analin dyes and other coal tar products which are now utilized in industry and in medicine.

Theodor Frerichs (1819-85) was one of the most many-sided medical scholars I have known. He was at that time an adjunct professor—what in Germany they call an "extraordinary"—and appointed to teach pathological

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anatomy. Being a thorough chemist, he also delivered courses in which chemistry and pathological anatomy were treated in their relation to clinical medicine. In those young years of his, he performed his epoch-making labors for Wagner's Handbook of Physiology. He was a man of few words all his lifetime, deliberate, every word with a meaning and a purpose, both when he talked and when he wrote. Our first conversation was as follows: "New student, which semester?" "Fourth." "Where from?" "Greifswald." "What are you looking for in Göttingen?" "Pathological anatomy." "Nothing else?" "Whatever is going, but there is no pathological anatomy in Greifswald." "All right, the laboratory will be open for you all day." "What about Sundays?" "Did you have Sundays in Greifswald," He became professor and director of the clinic in Kiel, in Breslau, and in Berlin. We know him best by his remarkable contributions to the Handbook, by his "Bright's Disease of the Kidneys," (1851) his "Klinik of the Diseases of the Liver," (1858), and his writings on uræmia, on diabetes (1884) and his discovery of leucin and tyrosin in the urine of the yellow atrophy of the liver.

In Göttingen, however, I found more than I had looked for.

Hermann Lotze (1817-1881) must have had a great influence on the youthful minds of those who listened to him during his long professorship. I attended his lectures in the winter following the German revolution of 1848, and was fully prepared to accept anything revolutionary in the field of science. Moreover, he gave the lie to those who claim that an eloquent lecturer is rarely an efficient teacher. He was both; the sickly looking man warmed your heart while he added to your mental stores. I was fully prepared to appreciate him, for the prerevolutionary time had made me acquainted with the materialistic tendency of many parts of philosophical literature. The iatro-mechanic school of the renaissance—that of Paracelsus, Helmont, and Sylvius—looked upon the human body as a purely physical organism; with René Descartes (Cartesius) (1596-1650) I was somewhat familiar, and

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La Mettrie's "L'homme machine" (1709-51), the product of encyclopedistic France, had been my gospel. Thus it happened that I was greatly struck with Lotze, who both in his book on "General Pathology and Therapy Considered as Mechanical Natural Sciences," (1842, 2nd edition, 1848) and in his lectures taught the presence of a mechanical legality of all organic and inorganic life. Still he would happily clothe these views with his inborn idealism and look for connections with the principles enunciated by Spinoza and by Leibnitz, which many years later he published in the three volumes of his famous "Mikrokosmos" (1856-64). Thus his materialism was of an idealistic and refined sort. Altogether I warn you not to scoff at materialism as pulpits do and not to consider it a system or a dogma, but a principle only which may be evolved out of the great modern discoveries in chemistry, physics and physiology. According to their results, we know of no force or function which is independent of matter. For the naturalist, the separation between function and organ does not exist. We have no dealings with those who will force orthodox religious disputes into our studies and laboratories. For theology and science may travel their separate roads, and toil in their special fields. They do not necessarily exclude or always antagonize one another. Indeed, in the German Association of Naturalists and Physicians at Innsbruck, in 1869, I met Carl Vogt, the iconoclast, and a number of Catholic priests who were proficient entomologists and botanists, working at the same table. It is from that point of view that Huxley declares "atheism untenable. When we know nothing, we can neither affirm nor deny with propriety." That is why he invented the appropriate term "agnosticism" and "agnostic." The question how much we or our successors may know about the intricate question of the existence of a mind or soul independent of the brain and body, or one that is absolutely connected with, or rather dependent on organic anatomy, are moot questions we may safely leave to posterity to answer. Indeed, the world is filled with many more problems half solved or unsolved, and every new truth opens a vista of things un-

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known. Surely when a physiologist like Emil du Bois Reymond in his discussion on such topics declared before his peers of the great meeting of Leipzig in 1872, "ignorabimus"—we shall not know—"and here are the boundaries of the knowledge of nature," it looked like theological boldness coupled with senile indolence. At all events, modern psychology is not afraid of studying with biologic methods the questions connected with the organs of thinking. Psychophysics is part of psychology. Gustav Theodor Fechner (1801-1887), of Leipzig, should be considered its founder, but Wilhelm Wundt (born 1832) is now recognized as the most exact investigator of cerebral—so-called mental—functions, and the recognized head of the laboratory school of psychologists all over the world. They do no longer fear to apply their intellect to the *study* of their intellect. They are not even afraid of attacking problems left untouched by Julius Robert von Mayer (1814-1878), the author of the theory of the preservation of force. This theory, or rather this "law of the preservation of force," which is generally recognized, has become indispensable for biological research. It has finally annihilated the vitalistic theory, that is, the assumption of a special vital force; and has proven the sufficiency of chemistry and physics for the purpose of explaining the phenomena of biology and pathology. Thus, on his lines, Robert Mayer has accomplished as much as Charles Darwin in his great books of 1859, 1868, 1871, and 1872 for biology, history, and archæology. Robert Mayer's name will be immortal on account of what he has achieved, and should not suffer because there are things he left undone, and truths he left unuttered. In regard to the latter he is slightly guilty, perhaps. Indeed, I was present when, in 1869, he delivered an address "On the Necessary Consequences and Inconsistencies of the Mechanical Theory of Heat," in which, possibly overawed by many attacks by the always militant clergy, he postulated that in the world of intellect the laws of the preservation of forces were not necessarily so valid as in the physical organism. Verily, he was a queer example of greatness and mediocrity. He was a medical officer in the Dutch navy, and later a

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practitioner in a small German town. Under the equator he noticed the altered metabolism of the sailors and the change in the color of the blood during venesection. That was enough to awaken his interest and to lead to results as great as the gravitation theory of Isaac Newton, which is attributed to the falling apple. But he was an indifferent writer. His first publication of 1842 was hardly noticed, only that of 1845, under the title "Organic Motion in its Connection with Metabolism" (*Die Organische Bewegung in ihrem Zusammenhang mit dem Stoffwechsel*) made his name and his theory famous. I found his utterances halting and unimpressive, both in private conversation and in public, and he did not improve even in his fights for priority.

Nearest to him in line and in results of his thinking came James Prescott Soule (1818-1889) of Salford, Eng., who delivered in the Section for Mathematics and Physics of the British Medical Association, 1843, an address "On the Calorific Effects of Magneto-electricity and the Mechanical Value of Heat," and Hermann von Helmholtz (1821-94). The latter's address on "The Preservation of Force" was delivered, 1847, before the Physical Society of Berlin. Both Mayer and Helmholtz must be credited with the elaboration and the final acceptance by the world of the great teaching. It is true that what they taught had been imagined or even asserted before. Titus Lucretius Carus said nearly 2,000 years ago: "New things will always arise from the disintegration of others."¹ Mariotte has the following: "La nature ne fait rien de rien, et la nature ne se perd point." Leibnitz formulated the doctrine of the preservation of force mathematically in 1686; the Marquise du Chatelet expressed cognate views 1742; and Lavoisier taught the indestructibility of matter. But the world had after all to wait for Mayer and Helmholtz before previous suggestions were generally welcomed and adopted. In connection with all this you might learn one thing, my young friends, you should not forget. You need not be attached to a big laboratory or live in a town

¹ Cf. Julius Pagel *Gesch. d. Medicin*, Berlin, 1898.

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counting its inhabitants by millions to become famous and a benefactor to mankind. Robert Mayer was a physician in a small town in South Germany, like McDowell and Marion Sims in America.

Conrad Martin Johann Langenbeck (1776-1851) was professor of anatomy, surgery, and ophthalmology. He extirpated the uterus several times and improved the technique of amputations, of ligatures, of lithotomy, of cataract, and pupil operations. Of all these clinical feats I saw specimens in his clinic. It must strike you that there are men alive to-day who antedate antisepsis and asepsis, and you wonder at the kind of results obtained by men who worked in the anatomical and the surgical theatre the same day, and every day of their lives. What at those times you could have seen all over the world, however, I participated in myself. For when I was professor of the diseases of children in the New York Medical College, 1860-64, my surgical colleague was John Murray Carnochan (1817-1887). I admired him much on account both of his learning and his dexterity. In one respect only we disagreed. I saw a great many cases of diphtheritic croup forty-five years ago and performed many tracheotomies. It was nearly thirty years before the era of intubation. Once, in a faculty meeting, he inquired: "Does Jacobi not cut too many throats?" Still, he was a great surgeon, indeed, who ligated (1851) the femoral artery for elephantiasis, excised (1850) the second branch of the trifacial nerve centrally from Meckel's ganglion, resected the ulna (1853), wrote on hip-joint luxation, on lithotomy and lithotripsy, and on congenital luxations (1850). Carnochan dissected the dead body and operated on the living in the same amphitheatre, on the same table, in the same purple gown, on the very same day.

Now, to return. When I arrived in Göttingen, September, 1848, only fifty-seven years ago, the story was told of an English surgeon who was a guest of Langenbeck's. A femur was to be amputated, the patient on the table; Langenbeck took the knife and the Englishman his spectacles to adjust them. When he was ready to look

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on, the thigh was in the basket. Rapidity, at that time, stood as high as safety at present, indeed, rapidity was demanded for safety. Remember, however, there are those at present who assert that safety would be greater to-day also if the temptation of losing time over anæsthetising and operating—mainly the former—were not so great, and the respect for myocardial degeneration and for the jeopardy of the splanchnic nerve not quite so small.

As it was my object to make you acquainted with really great men only, whose memory should be gratefully preserved by all who are interested in the progressive history of medicine, I turn to my final semesters which I passed at Bonn.

Friedrich Nasse was more than a kind, humane, and pious physician and teacher; he was one of the few—indeed, the first—German clinician who introduced the findings of Laennec and Skoda into German medical instruction. You see how fortunate I was. Born in 1778, he could never, it is true, divest himself entirely of the influence of Schelling's so-called "nature-philosophy" and of Mesmer's animal magnetism. Indeed, in 1850, while I worked in his clinic, he wanted me to go to Holland to magnetize a hysterical young lady. She had to get along, however, without my ministrations. For many years he had been intimately connected with Ennemoser, who explained the relations of Adam and Eve to be founded on animal magnetism, and taught the method of magnetizing the trees in the field and the child within the maternal womb. As I have mentioned, the first forty years of the eighteenth century were the period of the greatest humiliation of German medicine. Most of its literature was steeped in gross obscurantism and its teaching and language were mostly unintelligible. In spite of all this, Nasse, who was first a practitioner in a small city before in 1818 he became professor in Bonn, recommended the use of the thermometer in scarlet fever as early as 1811,—it was introduced and popularized by Wunderlich half a century later—published experiments on the processes of elimination in connection with the changes of the blood caused by respiration, in 1816, and

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on combustion and respiration in 1846, on regeneration of nerves and occasional restitution of their functions in 1839, and many essays on the physical causes of mental diseases.

To us he was a paramount blessing in this way: Until the middle of the nineteenth century the diagnoses were mostly symptomatic. For instance, it was generally claimed that "gastricismus"—perhaps you would call it dyspepsia now—would change into gastric fever; endoperi-, and myo-carditis were simply carditis; and, cyanosis, fever, dropsy, jaundice, diarrhœa, apoplexy, and paralysis were recognized as full-fledged and scientific diagnoses. Indeed, we have not altogether worked away from this self-satisfied indefiniteness; for our successors will have to correct us for still making the diagnoses of rheumatism, of myasthenia, of neurasthenia, and of epilepsy, and for coupling with the names of writers a disease or a complex of symptoms,—from Friedreich or Addison, Basedow or Graves, even to Banti—and for believing that we have thus furnished the quintessence of sound and scientific diagnoses.

Nasse taught us to avoid such names and such symptomatic diagnoses. They were permitted as denominations for a class or complex of symptoms, but he insisted upon the finding of anatomical causes; that is why nobody was a more regular attendant on autopsies than our revered teacher. But his principal merit was the early adoption of auscultation and percussion as taught by Laennec. Indeed, the great Frenchman credited him with being one of the few Germans who introduced the new discovery into his country. For hours daily, during the three semesters I was in Bonn, he drilled us personally in percussion and auscultation. With the exception of Krukenberg, in Halle, he was, between 1830 and 1840, the only public teacher of clinical medicine who treated it as a part of natural science. He died in 1851. I was one of the last two of his young men whom he graduated.

The clinical advantages we had in Bonn were probably superior to those enjoyed in any other university; for the professor of surgery and of obstetrics imitated the

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example given by Nasse. As the medical school was but small, our relations to the professors and the patients in the hospital—which contained about eighty beds—became quite close. Large classes cannot enjoy such advantages. The amphitheatre teaching in Berlin, Vienna, New York, Philadelphia, and other large cities affords but insufficient opportunities. That is why so many small practical classes have to be formed there, under assistants and adjuncts. A moderate number of patients thoroughly studied outweigh by far a large number of cases counted, but slurred. A hundred students driven along by a hundred besides, unable to examine personally, unable perhaps to see, will develop into a hundred doctors who will have to attain their knowledge from a future practice, or a cemetery of their own. They may learn at the expense of their patients, or make the same mistake a hundred times. One hundred mistakes are then called experience. The facilities I had and the methods I learned at Bonn more than half a century ago are still superior to those of almost all our present American medical schools, and were the models I introduced into my teaching when I became connected with American institutions. Not only did I for the first time in America specialize the teaching of the diseases of children, but the first real, active bedside instruction was exhibited under the very roof of the New York Medical College, with which I was connected from 1860 to 1864, at the expense of the enthusiastic faculty and some of our friends. In that year, 1864, the College closed its doors.

Karl Wilhelm Wutzer (1789-1858) was professor of surgery and ophthalmology. He wrote on anatomical and ophthalmological subjects, hernia, tenotomy, ligatures, and injuries of the skull. Before he knew anything about Marion Sims' efforts and achievements, much less of those of Mettauer's, whose history Ben. Johnson has lately written with a loving hand for the American Medical Association, he operated for vesico-vaginal fistula, with more or less favorable results. When I assisted him in 1850, chloroform had been introduced and facilitated the operation, which, the instruments being clumsy and the methods

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defective, lasted many hours sometimes and had to be repeated. Jobert de Lamballe was in Europe his only example to follow. Wutzer was, like Fournier and Erb after him,—perhaps even more so than they—a great believer in the ubiquity of syphilis. With twinkling eyes he would look up to us suggesting that “everybody is a little syphilitic.”

Moritz Ernst Neumann lectured on general pathology. He had written a big book on the subject in six volumes. But he was a religious and kind-hearted gentleman; that is why he did not expect us to read them.

They were not all of that turn of mind. The professor of *materia medica*, Christian Heinrich Bischoff, having threatened me and promised himself to “pluck” me, forced me to spite him, and to learn by heart his formidably old-fashioned and unintelligible text-book. Two factors came to my aid. At that time I had a good memory, even for incomprehensible things; and secondly, the examination took place in the presence of the whole faculty, who knew of the disturbed diplomatic relations between the professor and the student.

Another more illustrious man—a fellow-student and a real friend—whose name should not be forgotten in the history of medicine, was Carl Otto Weber (1827-1867). He passed his whole student life in Bonn, and was by far the most accomplished man in a wide circle,—a good anatomist, clinician, botanist, mineralogist, and musician. He died very young, 1867, while Professor of Surgery in Heidelberg. There he succeeded Gustav Simon (1824-76), whose name should be familiar to all of us on account of his priority in extirpation of the kidney. Carl Otto Weber wrote authoritatively on diseases of the tissues, of the skin, connective tissue, blood and lymph vessels, nerves, the face, on enchondroma, epithelioma, and the diseases of the joints. He died a medical martyr. Performing tracheotomy on a croup child, he prevented suffocation by sucking out the trachea filled with blood and diphtheritic membrane. He saved the child, he destroyed himself, and with himself the hopes of the medical world.

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Foremost among the good and great men whose friendship and assistance I enjoyed at that time and ever since, was Dr. Hermann Weber, now Sir Hermann Weber. He was Nasse's chief of clinic and entrusted with the principal hospital work and the out-door practice amongst the poor. Under his guidance I had a good deal of practical work. At another occasion I have reported the case of an old man of 78 years whom I had thus to treat in 1850, for his bilateral pneumonia. At that time the internal treatment of pneumonia consisted mainly in the administration of large doses of tartar emetic. Venesections were still made frequently; after a while they were unduly neglected and abandoned, so that now-a-days you sometimes find a practitioner who does not know how to perform one without the fear of cutting into the brachial artery. So I made two venesections, attended him all the way through, and still he got entirely well. The case may teach you two things: first, that even a seriously ill man of 78 need not be despaired of; second, that you are, however, under no obligations to be ignorant, or make serious mistakes, fashionable or not. Dr. Weber emigrated to London in 1851. He advised me of that step in the last letter I received from anybody in several years during which the Prussians were mistaking me for a political star of dangerous magnitude, and dragged me from one of their dungeons to another. After years I met him in London as a house physician in a hospital. Then he embarked in a successful consultation practice, became a much respected and admired authority in subjects connected with climatology, mineral springs, and tuberculosis, was knighted, and practices successfully what he preaches. His address, published only two years ago, "On the Means for the Prolongation of Life" contains the teachings which have made him a joyful and youthful gentleman at present of eighty-two years. He is the only medical friend of those distant years still left to me. If he will promise to continue the genial youthfulness of his heart and brain, I hope he will survive me a generation. If, however, he would insist upon it, I should not object to keeping him company.

I hope, gentlemen, that many of you, like him, will go

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into general practice. It is true there is more reputation in narrowing one's self down in a specialty, but remember, for a few only; more money for some; a narrow horizon nearly amounting to actual blindness for almost all. If there be any here preparing to embark in a specialty immediately after graduating, I sympathize with them, for they condemn themselves to carry blinders all their lives, and to lead the lives of medical hermits. Whoever expects to be great in a specialty should arrive at its portals through the gates of general practice. Whoever, at once, without ample and wide clinical experience, limits his field of vision to the nasal, or rectal, or laryngeal cavity, deserves and acquires all the darkness of the gloomy region of his choice. And whoever is among those who like to misunderstand and to censure Jacobi for hating specialism and disapproving of specialists, are merely enjoying their misapprehension.

I am certain I shall not be misunderstood here. No science or art can improve without specialistic work. Great investigators must concentrate their efforts to find new facts for us; many of them have become benefactors only by becoming unselfish martyrs. What I object to is the flippancy of young practitioners which tempts them to look upon the human organism as a mechanism whose parts they may separate and treat like the wheel in an engine. On the other hand, I admit that our personal attitude to the question of practical specialism may become just a trifle strained and look over done. I will give you my personal experience.

Fifty years ago it was my greatest ambition, and the aim worked out for myself and dimly seen in my mind's eye, to live long enough to develop the study and the teaching of the physiology and the diseases of infancy and childhood to such an extent as to be mentioned among the pediatricists of America, or perhaps even of the world. I knew my Seneca and remembered "*Patet omnibus veritas, nondum est occupata—truth is open to all, it is not occupied.*" In a long life views and aims may change, however, or at least be modified. I have become more sensitive, I believe, certainly I do not like to be called names, least of

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all "specialist." When I got out of my intellectual teens, that is, when I grew up to be fifty or sixty, or seventy-five for that matter, I lost my taste, if ever I had it, for being labeled with a trade mark, like the German *Kinderarzt*, or *Frauenarzt*, or *Nervenarzt*, or what not, displayed on their shingles. A hundred times strangers would call at my office and ask: We understand you are a children's specialist, and I would say: Specialist? No such thing, if I am not good enough as a doctor, go somewhere else. And somewhere else they would go—sometimes to my own public college clinic.

A specimen of what has often been called a specialist was Carl Gerhardt (1833-1902), since 1871, when I met him first, my friend until he died three years ago. He published, 1861 and after, several editions of a wonderfully learned, at the same time practical and concise, textbook on the diseases of children. He was the editor of the great manual of diseases of children which appeared in seven volumes, 1877, and during a course of nearly twenty years, and placed pediatrics in Germany on a sound footing. Thus he was the predecessor of Keating in America and Grancher and Comby in France. If anybody could be called a specialist in the diseases of children, his was the claim. But he was the general clinician in Jena, in Würzburg, where he succeeded Bamburger, and in Berlin in the chair vacated by the death of Frerichs. He wrote on the location of the diaphragm, the diseases of the pleura, and of the larynx, on croup, and many other subjects. One of the best books on auscultation and percussion in any language is his. He was perhaps the most expert laryngologist of Germany, and was the first to diagnose, while its extermination was still possible, the cancer in the larynx of the unfortunate and Mackenzie-ridden Crown Prince of Germany. He was a perfect chemist; the iron chlorid test of glycosuria is named for him, not by him—for he had the righteous simplicity characteristic of a really great man—and was none of the strenuous gasometers replete with pompousness, promises, and inconsistencies we may meet in science and in politics. He was a physician looking for the ends of medicine, which

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are the cure and prevention of disease. The recommendation of sodium borate for adiposity—gentler and less dangerous than the much-abused thyroid preparations—is among his last publications. Facing the preface of my “Therapeutics of Infancy and Childhood” there is this dictum of Gerhardt’s: “Healing is a fruit that grows on the tree of knowledge. No rational therapy without diagnosis. Examine, then judge, then help.” He was the ideal scientific physician. It is true, gentlemen, there is perhaps nobody here who will ever be a Gerhardt, but there is no one who should be without the highest ideal. Ideals are not for those only whose heads tower above ours, and the very soles of whose feet seem to walk over the clouds, but for all of us who take pride in admiring great examples and try to follow them.

The same year (1902) which deprived the world and me of Gerhardt, removed three great physicians. Adolph Kussmaul, I never met personally; Hugo von Ziemssen I knew when a student in Greifswald and met from time to time in later life. Perhaps he is most widely known by his editorship of a great cyclopedia, viz., that which preceded those of Eulenburg and of Nothnagel. A still more important achievement of his is the powerful aid he gave to the regeneration of the Munich University and its change from what was a clergy-ridden and mediæval prison of the intellect into a modern school of thought, and science and art. So, if Gerhardt was the benefactor of clinical medicine in all its special branches, entirely by his accomplishments to the place of a specialist in each, Ziemssen, while being a great teacher and original writer, added to these merits the delivery of a great institution from the fetters of ultra montanism.

The grandest, however, of all the gigantic intellects, and at the same time a humanitarian of a world-wide horizon, was Robert Virchow. We have all lost in him a friend, for he was a friend and benefactor of mankind. His is a new era, that era created mainly by him. You know of his hundreds of epoch-making writings, of his tumors, his cellular pathology, and his *Archiv*, which has reached its one hundred and eightieth volume. In the history of our

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profession, aye, in that of mankind, there is no man in whom a vast intellect was blended with a warm heart to the same degree. There never was so great a statesman in our ranks. At the age of twenty-eight years the Prussian Government sent him to Upper Silesia to study the petechial typhus which was devastating the country. In his report he pictured its nosology and pathological anatomy as it had never been done before, but also its etiology, viz., the governmental neglect of the inhabitants which extended over centuries, their poverty, ignorance, filth; the moral and intellectual tyranny of the Catholic hierarchy, the economic subjugation both by the Prussian bureaucracy and by the effete feudalism. He urged medication and sanitation, but more eagerly social reforms, culture, liberty and comfort, unlimited democracy, education in public schools, agricultural institutions, care and education of the numerous orphans, building of roads, and the general recognition of the fact that, as he expressed himself, "our century is the beginning of a new social era." What happened? Was he applauded? Decorated? Rewarded? In accordance with Prussian methods, he was deprived of most of his public positions. Then in the first number of a new journal he said: "The physicians are the natural attorneys of the poor, and the social problems should largely be solved by them," and in the last: "The medical reform we contemplated was to be a reform of science and of society." With this early programme he filled his rich life. Whatever concerned men, present and past, that he studied and revealed, the sick, the dead, man both historical and pre-historical man as a social animal, in the municipium, in the state, on the globe. Modern anthropology has no more fertile contributor and founder; and archæology was greatly benefited by his studies and travels. The contemporaneous human bee-hive of the whole world roused his warmest interest. He addressed hundreds of popular meetings, edited a thousand popular essays, looked after the sanitation of schools and civic and military hospitals, made Berlin a healthy city, and in parliament aided the liberal movement in Germany. There never was a man who more than he deserved the hatred of a few scoffers,—amongst

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them of the coarse, brow-beating Bismarck—and the admiration of his native land and all mankind.

This greatest of all pathologists, archæologists, anthropologists, was a statesman in this also—that he recognized and proclaimed the aim of medicine to be scientific healing. It may not be generally known that for a long time he directed a ward in the Charité Hôpital. His handbook on pathology and therapeutics, written by himself and a small number of select men, 1854-1862, contains in its volumes everything that was known half a century ago, and much more that was new, and much that will stand for all times. He was the biological seer, knowing all and predicting more. His like we shall not see again, perhaps need not see again, because men endowed with high talents will do enough when building on his foundations. If there be anything I am proudest of in my comparatively humble life it is the honor of his friendship, which I enjoyed this last twenty years.

Amongst those whose personal acquaintance I enjoyed, was Billroth, the great and original surgeon, at the same time an educator of high rank, and a popular member and leader of musical and classical society. Amongst my reminiscences, I treasure the following: In one of the instructive reports of his clinic a third of a century ago—it was that of Zurich, long before he was called to Vienna—he spoke of tracheotomy in children as being to him the most formidable of all operations. He was upset by the struggles of the child that suffered not only from the strangling croup, but from its fears and pain, and anguish and agony. Evidently he never used chloroform in his operation. Indeed, some authors were of the opinion, resulting from nothing but lack of experience, that anæsthetics increased the orthopnœa and anguish. I wrote to him about my own experience with chloroform, and that I feared the final termination, but not the operation. A few years after I met him at a Congress. He laughingly said: "Thank you so much. I am no longer afraid." I replied: "That is what people say of you anyhow." A good handshake was my reward.

I shall still mention Nothnagel, who died lately, much

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younger than I, and a warm friend—one of the born knights. His position in the world of medical letters you are intimate with. What you may not know is that all the reactionaries, all the obscurantists, and the whole rabble of antisemitic millions in the Austrian monarchy honored him with their hatred and spiteful persecution. As there was sunlight in his head, so there was warmth in his heart; that glowed for all that were down, all that were oppressed, rich and poor, without regard to color, race, or previous conditions of servitude.

Gentlemen, I have kept you long, but I like to talk to the young. If, however, you are of the opinion of Cicero, who said that old age makes loquacious, "*senectus loquax*," please remember that I had to wait seventy-five years before I had this opportunity. Therefore, you can afford to give me another minute for a few aphoristic conclusions that may be drawn from my kaleidoscopic review of past times. You have seen that great times make great men, but men contribute to making history. That of medicine extends over thousands of years, but never attained actual scientific progress until it was studied as part of biology and founded on facts either clinically observed or based on experimentation. From our time on the teaching of Hippocrates will always be correct, "Whoever looks for a new road or believes he has found a new scheme is either a deceiver or deceived."

The few men I have presented to you in brief sketches, dear to me for more reasons than one, should be so to you because they made part of our common records. Their labors, their very existence, mean an active advance for medicine. They deserve our gratitude, and they teach us modesty, for there may not be many amongst us whose achievements will reach theirs. You will have noticed that much valuable work has been done long, long ago. If you will study history you will acquire a proper regard for our ancestors. If their writings were properly scrutinized and remembered there would be no such deluge of ephemeral rediscoveries of facts that your fathers knew or even learned from a previous generation. By examining the past you will save yourself much repetition and labor, and

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will improve your opportunities for real original work. For what the dead, or we the old, could not accomplish is a debt that you and your contemporaries should be anxious to pay. If you get into the habit of earnest scientific work you will never be older than the questionable forty or sixty, and there is at no time a metaphorical chloroform for you. But remember three-thousand-years-old Hesiod said: "The immortal gods planted sweat before virtue; the path leading to the heights is long and steep." Also remember our good and great, and genial William Osler's master-word, which is "Work."

Most of the men of whom I have spoken to you were more than medical men only. The mere tradesman in the profession is a "medical man"; the gentleman in the profession is more, he becomes a physician—but he only. In the lowliest practice there is many a case that "no medicine will cure, but the medicus." You may be ever so learned, and yet an inefficient doctor. We doctors of the United States and the government of the United States knew everything about typhoid and dysentery and their prevention, but Chickamauga and Montauk killed ever so many hundreds of young fellow creatures and made thousands of life-long invalids. Up to the so-called Spanish-American War to each two men killed or mortally wounded in battle ten would die of disease, and according to Louis L. Seaman in the Japanese army one, in the army of the United States, twenty-eight.² So-called civilized government can be as ruthless and savage as nature herself in her cruelest moods. That will always be so until the physician is accorded the controlling place in society demanded for him by the sages of all ages—Socrates, Kant, and Gladstone. Yours is the duty to work for that blissful future. While being citizens in the profession, be citizens in the community, in the state. You should be pathologists and therapists to the individual patient, you should, like Oppolzer, be the practical humanitarians. Still therapy,

² American Newspapers of October 9th publish the following official returns of the casualties of the Japanese army throughout the war: Killed, 46,180; died from wounds, 10,970; died from disease, 15,300. Total deaths, 72,450.

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you understand, is not drug therapy only; but prevention and sanitation, and diet. But do not forget that the misanthropic disbelief in drug medication is the result of ignorance or indolence only. I never knew a surgeon to disbelieve in his knife when he knew its virtues and applications. I never knew a drug to do harm when not misused, or accomplish aught but good when its property was understood and the indication for its administration correct. The knowledge of your case and your drug, and the sympathy with the sick, will give you courage and patience; it is ignorance or callousness only that causes cowardice or negligence.

Read your Hippocrates, my young friends. He tells you that the art of medicine leads to piety towards the gods and to love of man. "Where love of your art, there is love of mankind." Combine science and art and humanitarianism in private and public life. If you do so, you will be the good, and blessed, and great physician and citizen. We may not be counted among the immortals, neither you nor I, but the good we do is not mortal, for there is no force but is preserved, and no active life is spent in vain. You are young, and young your ideals. The best men whose pictures I have shown you preserved their young ideals to their dying hours. Thus their lives exhibit examples of singleness, harmony, and power. They were apostles of medicine who carried our gospel to their successors. All their great heritage is ours, is yours. By the science of art and medicine much is given us; and from us, from you, much will be demanded.

ADDRESS AT THE UNVEILING OF THE SKENE MONUMENT

MONUMENTS are rare in America, except those erected in honor of soldiers. Is it because there are no great men to revere and remember?

We have seen the useful and much-admired pass away, and beyond an occasional recollection, mostly among their neighbors and friends, or a casual reference to their doings and merits, they have disappeared from the horizon like some dim, distant history. Are we less grateful than other peoples, we who have so much more reason to be thankful than they? Or is our democracy, the bone and marrow of this blest land, so conceited and shortsighted as to level the great and small, the genius and the sot, the altruistic benefactor and the self-asserting egotist?

What is there in Alexander Skene that selected him for immortality? He died six years ago and appears to require no resuscitation at our hands, for he has lived all this time and will continue to live in many pulsating hearts and grateful memories.

His early education was obtained in Scotland, his professional training in Canada, in Michigan, and in the Long Island Hospital College. His medical service was both military and civil. He was a general practitioner and did general surgical work until he devoted himself to his life specialty. Even when engrossed in special work he retained a select private and consultation practice. His literary work in magazines and books, though mostly of a specialistic nature, would connect him with general medical periodicals, would lead into general surgery, even into belles lettres. From 1863 on his contributions to medical literature were many. No year passed without one or more. Some were strictly surgical, some of general medi-

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cal import, one dedicated to his friend, Corydon L. Ford, many anatomical and pathological; the vast majority were specialistic.

He entered a specialty at a favorable time. Amongst our great masters in medicine were Valentine Mott, Wright Post, Alfred C. Post, Frank H. Hamilton, and those Brooklynites, Daniel Ayres and Joseph C. Hutchison, whom you must never forget, for each one was a *præsidium et dulce decus*. Every one was a man of broad culture, classical education, universal medical information, and general—though preferably surgical—practice. From a similarly broad foundation Skene developed into a specialist; so he became one of the ideal specialists, who are growing scarce in a period where specialists are so many and doctors so few—for in his scientific evolution, in his practice, and in his professional relations, he was broad, far-sighted, and endowed with a wide horizon, never wanting to lose nor ever losing his clear appreciation of the human body as an organism, and not a machine, the wheels of which could or must be mended independently like those of an engine.

Thus it happened that where he was we knew there was an authority on many things and a sound teacher; in other things, a searching, though modest, listener and questioner. Thus, it was self understood that he was from time to time the leader and presiding officer in many of our gatherings, because corresponding honorary fellow in many American and European learned societies, and finally the recipient of a high degree from a Scotch university. Thus, he was a connecting link in the disjunct parts of medicine and between two hemispheres, a citizen of two worlds.

Father Homer spoke of his like when he said (*Odyssey*, xix, 332): "Whoever shows himself to be beyond blame and creates things superior, his fame is spread far and near by the strangers amongst the men of the world, and many praise him for the good he does." You of Brooklyn who knew and admired him know the good he has done to you and us. Those whom he served, those whom he relieved, with whom he sympathized in their distress, whose hopes he revived, whose energies he restored—will not, must not, forget him.

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But there was more in Skene than an individual physician who had attended individual cases and earned individual thanks and veneration. It is fortunate for you that the community has many such, who do good wherever it is required and more than credit is given. I know what I speak of when I say that you have many among you who act on the principle of the old ditty:

“Do good;
Throw it into the sea;
Though the fish may not see it,
The Lord beholds it.”

That is what *he* did, but he did more, for he was a greater man. Whoever was merely a much-beloved physician would not be honored with a public monument. He was a great citizen, because a great physician; and though he never may have been intimately connected with the practical politics of the city or the State, his work as a great and good physician created around him the atmosphere and placed upon his head the crown of civic virtue. That is as it should be. It is not true that the physician is without influence in the community, even he who takes no personal practical interest in public affairs, provided he practices and teaches medicine as a humane and social office; and though he be less eloquent than industrious, less brilliant than strictly honorable, he leaves his impress on his neighbors and his town, and on his students and colleagues all over the country. I knew well how Skene thought and felt. To him there was no more dignified position in the community than that of the physician, individually and collectively. The physician's knowledge of the requirements of individual and public health, of sanitation, of forensic affairs, makes him the statesman in the community and will give him in future, when the people will have been educated up to it, the first rank amongst all the classes and professions. That was Skene's conviction and his prophecy.

While we are waiting and working for its fulfillment, you have proved your appreciation of the man, the physician, the citizen whom you are anxious to honor. By so do-

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ing Brooklyn has honored itself. Young and old when passing this monument will remember his name, his virtues, his work in the interest of the community; and will learn how to believe in work for work's sake, in the benefactions bestowed by science and art such as his, and the beauty of ideals, whether realized at once or in the dim future.

MEMORIAL ADDRESS ON CARL SCHURZ

THE first shock has passed, and with it numbing dismay that robs one of words. His death seemed almost to outrage nature, and shook our faith in a reasonable natural order. To-night we have gathered to look back, across the past, and to measure our loss. The loss that his family and nearest friends have suffered, is not for us to tell. Their grief is silent, sacred to their own hearts and lonely homes. But it has seemed to us fitting to honor ourselves, men of a smaller mold, by recalling the greatness of this man who has gone from us, and who has left us an heritage so priceless. In a single month of time, which usually paves the way for forgetfulness, his greatness looms larger. Increasing distance, which ordinarily causes large objects to grow smaller and disappear, serves only to emphasize the outlines of his figure, his activities, his achievements. The picture needs no embellishment, nor added coloring, for no power of imagination could conceive within one life more work, varied in kind and direction, than was embodied in this extraordinarily endowed nature. No man was ever inspired with greater love for his fellow men, with more thoughtful consideration of the individual man, with more tolerance of human frailties, with more sympathetic interest in the doings and ambitions of the lesser ones among us, with more enjoyment of others' happiness. This great gathering bears witness to the inspiration it has derived from the contemplation of such a life.

In 1848 he was 19 years old, speaking for the Revolution in and around Bonn, and at the Students' Congress in Eisenach. When he was 21, I became personally acquainted with him, that was fifty-six years ago. He had fought in the Palatinate and in Baden, and had returned to Germany, a fugitive, on a secret mission—planning

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great deeds—crowned with success. Years later I met him again, over here, industrious, alert, active in the politics of the West and of the Union, and German revolutionist and scholar that he was, enlisted heart and soul in the anti-slavery movement. In Wisconsin he failed by a few votes of election to the office of Lieutenant-Governor. Called to Boston, he expounded to fascinated audiences of New Englanders—not merely the masses, but politicians, philosophers, and scholars—the ethics of political culture and the significance of America in the life of the nations. His speeches in the campaign for the election of Lincoln are masterpieces of political effectiveness. At Cooper Union, thousands, dazzled and rooted to the spot, listened to him for three brief hours. As ambassador at the Court of Madrid, he warded off, by his tact, his energy, and his good humor, any breach of neutrality on the part of Spain. His prudence and quick decision saved some, at least, of the bewildered regiments at Chancellorsville,—for the most part German-Americans. He was among the first of those who, after Appomatox, sought their discharge from the army,—at a time when all Europe was watching with speechless wonder the prompt and heretofore unprecedented transformation of a million soldiers into peaceful citizens.

His hope then was for the peaceful reconstruction of the Southern States; but it was beyond even his powers to restrain the despotism of the carpet-baggers. In 1868 Missouri sent him to the Senate of the United States. The next ten years, in the Senate and in the Cabinet of the President, were crowded with important accomplishments; the development of our later national history is linked constantly with the name of Carl Schurz. Even now we do not know what revelations may come from the unpublished portion of his memoirs.

The successful stand against Grant's policy of imperialism in San Domingo,—the resumption of specie payments,—the conservation of the forests and public lands,—the protection of the Indians,—the establishment of the first modern training schools for the red race, inspired by

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General Armstrong,—the installation of the principles of Civil Service Reform in his own department, in co-operation with George William Curtis,—the successive sound money campaigns with their influence on the election of Cleveland and of McKinley,—all these are achievements of historical importance, which we, the indolent masses, soon accept, without concerning ourselves about the creator of the good that we enjoy.

But these facts speak loudly,—and still others, many of which may be unknown or forgotten, as for instance:

In 1874 his six-year term in the Senate ended. His re-election was assured, for the Republican majority was a large one. Schurz, however, had persevered in his fight for the re-enfranchisement of the former rebels, and was successful. As a result the Democrats were placed in the majority, and Schurz brought on himself the defeat he had foreseen.

In 1883, when in editorial control of an influential New York paper, he fought for the rights of the Western Union employees against the corporation. On the first day of a temporary absence his substitute completely reversed this policy. His loyalty to his party, to the cause of labor, and to his conscience, then cost him his position. He was poor. The United States pays its officers starvation wages, and Schurz had to depend upon his own savings. He refused, however, with indignation—almost as an insult—the offer of various friends to make him independent through a gift of money.

A few years ago it came to pass that he was not in accord with the attitude of many of our German-American fellow citizens and newspapers towards certain phases of the saloon and Sunday question—we are very sensitive, we Germans, in certain things, and are impatient of opinions other than our own. Great resentment was shown against Carl Schurz. He became suddenly a “traitor to the German cause.” And what of him? He continued as before, placid, patient, and loyal to his duty. And what of this great gathering? It justifies him. In another matter, also, does it justify him. A year ago a couple of

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Scribes and Pharisees sat down and addressed to us, the people, an open letter. They called us Germans (as is the custom only when they want to make use of us, "aspiring, earnest, steady, clever, industrious, intelligent, full of character and of courage." And they told us that Carl Schurz was a turncoat,—that he had deserted the Republican party after it had heaped honors upon him. What they did not say was, that he, and not they, had remained true to himself and to the ideals of morality the old party held. They also said that he opposed a high tariff and, therefore, worked against the country's prosperity,—they even dared to say that he had received pay for his political activity, and had accumulated wealth! And that they, the Scribes and Pharisees, no longer dared to look up to him as a statesman. What happened? This great country took no notice whatever. We Germans were aroused, and this meeting is our answer. I asked him once if he believed that such men as these could blush for shame. He said he hoped so, for a blush gave evidence of the remnants of a conscience.

Whoever has followed the story of Carl Schurz's life must be convinced of the consistency, the harmony, the patience, the goodness, the soundness of judgment, the energy in all that he did. His apparent failures turned out wise plans, devised for a later day, men who are chronically short-sighted, grudging, and antagonistic, always found something to criticise. So much the better for him and for his memory.

Unlike most, he was permitted to keep unimpaired from youth to ripe old age his brightness of spirit, his keenness of judgment, his warmth of heart. So this great man, whom we honored and loved, embodied the immortal spirit of the nation, which remains always young, always, like nature herself, progressively in evolution. He was the most admirable son of an age that gloried in action, and was ever ready for the next step forward. The movement of 1848 gave expression to the philosophy of Fichte, the poetry of Schiller, the fighting courage of youth, the necessities of the people, the conscious or un-

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conscious striving for freedom. Throughout, Schurz's life bears the stamp of 1848, with the spirit by which the German people have ever since been moved, and which has made it possible for them, transplanted to this soil, to take their share in the development of the America of the future. In this work, no single German has played so great a part as Carl Schurz.

EULOGY DELIVERED OVER THE COFFIN OF CARL SCHURZ, MAY 17, 1906

GERMAN was his native tongue—the language of his converse with his wife, his children, with many of his friends. These walls have echoed with the sound of German words; and in German he and I were wont to talk. So, as I used to speak it with him, in German I will say these last words, before he leaves these rooms, in which he thought and worked, enjoyed and suffered. A learned and eloquent man has spoken praise of the dead. Himself a philosopher, he has well estimated the philosopher-statesman, in whose memory it is not enough to say that he has satisfied the very best of *his* time, and that, therefore, he will live for *all* time. He has done more than achieve *that* distinction. To highest and lowest alike he was a friend, a teacher, a leader. He, the maker of history, and I, have often discussed the making of history, and whether it owes more to the masses or to their great men. With the warmth of interest which, all his life long, he took in the destiny of our old fatherland, he would follow the course of German growth towards political freedom since the Revolution of 1848, which unimaginative fools and spiteful reactionaries call the “mad year.”

Who was it, after all, that brought about the half unity, half freedom of the German nation,—who but *the people*, who just failed in succeeding in the full realization of their ideals. But we are still conscious of the spirit of 1848. The German people made their history, and Germany's greatest man could not prevent it. *Our* lot has been for the most part different. From the very start, in *our* struggle to realize the ideals of freedom, we have stood in urgent need of great men. We must confess, frankly and with all humility, that through the long years of starvation and cold and hopelessness, we owed our independ-

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ence to Washington, Franklin, Lafayette, Hamilton and Steuben. For a long time they constituted a minority that shaped the history of the United States. Schurz occupied a like position. Fearless and farseeing, he was almost always of the minority. Often, as in the matter of protection and training for the Indian, and in the conservation of the national forests, which we are in the habit of ruthlessly destroying, he was his own party,—a minority of one. Alone he introduced Civil Service Reform into his department. He, the German idealist, battled for the anti-slavery movement, not only on the platform, but on the field. In his wish to bring about reconstruction in the spirit of the murdered Lincoln, with statesmanlike mildness and wisdom, he was almost alone. His financial speeches in the Senate led to the resumption of specie payments; his debates on the gold question saved Ohio; it was his opposition that dealt the death blow to the San Domingo folly in the Grant administration, and for many years set a limit to imperialistic policies and plundering the lands of other peoples. The history of a great nation is not made in passing; the development of men, and especially of society, is a slow growth. But there is no advance in the history of the Union in the last half century that Schurz did not either initiate—often single handed against opposition and resistance—or support. His was frequently the experience of the rock, constantly cast aside, only to do duty at last as a cornerstone. Nor did he need the encouragement which—I quote from Homer, whom Schurz knew by heart—the venerable Peleus gave the youthful Achilles, “always to be the first, and to try to outdistance the others.” To be sure, outdistancing others was no concern of his.

Brain and heart and capacity for work and the ever-fresh idealism of his unquenchable youth, which ended but four days ago, of themselves placed him in the first rank. So he often performed the miracle of transforming hopeless minorities into triumphant majorities. As such a man he will be recognized in the pages of the history of the United States. With his German idealism he realized or helped to realize the highest purposes of the

EULOGY OVER THE COFFIN OF SCHURZ

American nation's struggle for liberty. His life and his achievements have widely taught the lesson that sound principles and honest effort in their behalf inevitably lead to the goal. The German revolution, or rather the suicidal reaction after it, cast him on these hospitable shores. In return for their hospitality, he conferred countless benefits on the free country that gave him shelter. So let America not forget what she owes to immigration, and let not the immigrants be unmindful of their debt to the great nation, engaged in developing gradually a new Americanism on this free and fertile soil.

May his fellow German-Americans remember this! He has left us—an unwritten legacy—the lessons of his pure, rich life, filled with renown, achievement, honor. The great lesson, though, that he never ceased preaching to us, was our duty to be good, conscientious, patriotic, and courageous American citizens. There is, indeed, not one of us who will ever be as great as he,—but neither is there one who is not in duty bound to try to emulate his example in practicing a purer, freer, and more independent habit of mind and in readiness for self-sacrifice. He was never greater than when, a steadfast mugwump, he stood in solitary opposition to the uproar, which has scarcely died away, over his so-called defection from a regular party. He did, indeed, forsake his party, or rather his party forsook him, when it departed from fundamental principles of justice and political conscientiousness. The fellowship of men like Curtis, Baldwin, Cleveland, and the homage of millions, were his reward—the proof of his success.

It should be a sacred thought to you, that even in the wandering of his last hours his mind was at work upon political and social problems. Disconnected words and eloquent gestures betrayed the tenor of his pure, frank soul, until it was given back to the universe.

You know well, however, that mere politics could not satisfy this great statesman. No human interests were foreign to him; everything contributed to enrich and round out his wonderful existence. He was the considerate and enlivening element in the family circle, the sparkling com-

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panion, the loyal friend. His knowledge of foreign tongues opened to him the treasures of literature. His early love for the study of history stayed with him throughout his life. His own historical works, his volumes on Henry Clay, his speeches on Lincoln and on Sumner, are masterpieces of the first order. No interests were foreign to him; Ernst Haeckel's latest book, "Der Kampf um den Entwicklungs-Gedanken," was a theme of conversation in the last week of his life. The love of nature and the appreciation of beautiful landscape were inborn in this poetic son of the Rhineland. A starry sky stirred him to eloquence. The ocean fascinated him, Lake George daily gave him new delight, the woodpaths bore names of his creating, favorite trees and bushes were honored with friendly titles. George Washington, Father Abraham, the Dioscuri, came to life. Music and song thrilled, uplifted, delighted him. No more shall we be greeted by the sound of his morning carols, echoing from this or that hidden pathway. His achievements were great,—more than great; his pleasures were pure and simple; his life was full of work and joyousness, of occasional failures, which he regretted when they meant a loss for mankind, and of successes, which he welcomed gratefully as triumphs of enlightened principles. Then he paid tribute to nature, for even he was mortal, like the rest of us, and had to die. But in one of his last nights he said to me, "It is so easy to die." *His* dying is not easy for us, but his life is an everlasting cause of thankfulness for the kindly fate that gave him to us, and that cherished him long. To pure conscientious and self-sacrificing souls it is a fount of inspiration, of encouragement and of hope for that which lay nearest to his heart—the perfection and happiness of the American people and of all mankind.

IN MEMORIAM: LEROY MILTON YALE, M. D.

DR. LEROY MILTON YALE was born at Holmes Hole (now Vineyard Haven), Mass., February 12, 1841, the son of Leroy Milton and Maria Allen Yale, and died September 12, 1906. He was graduated from Columbia College in 1862, and from Bellevue Hospital Medical College in 1866. In that institution he lectured for some time on orthopedic surgery. For a few years he held a lectureship on obstetrics in the University of Vermont. He was surgeon to Charity Hospital from 1870 to 1877, to Bellevue Hospital from 1877 to 1882, to Presbyterian Hospital from 1880 to 1885. He was a member of the New York County Society and Academy of Medicine, and, since 1891, of the American Pediatric Society, in which, though contributing but little beyond his paper on the Local Treatment of Diphtheria contained in the fifth volume of its transactions, he was greatly interested. He was co-editor of the *Medical Gazette*, 1867-68, and medical editor of *Babyhood*, 1884-1891. His books are: "Nursery Problems," New York and Philadelphia Contemporary Publication Company, 1893, pp. 274, 12mo, and "The Century Book of Mothers," 1901. His journal articles quoted in the subject Catalogue of the Surgeon General's Library are as follows:

"A report of the Epidemic of Cholera Occurring on Blackwell's Island, New York, in the Summer of 1866." Pp. 109-197. New York: F. McElroy, 1867. (Reprint from Annual Report, Commissioner Charities and Corrections, New York, 1867.)

"The Argument for the Antipyretic Treatment of Fever." Pp. 20, 8vo. New York: D. Appleton & Co., 1874. (Reprint from *New York Medical Journal*, 1874, Vol. XX.)

"Phimosis; A report from the Surgical Section of the

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New York Academy of Medicine." Pp. 15, 8vo. D. Appleton & Co., 1877. (Reprint from *New York Medical Journal*, 1877, Vol. XXVI.)

"Certain General Considerations Respecting the Mechanical Treatment of Chronic Diseases of the Joints, with Special Reference to the Use of Traction." Pp. 16, 8vo. Trow & Co., 1878. (Reprint from *Medical Record*, 1878, Vol. XIII.)

"The Academy as a Teacher." An Anniversary Address Delivered before the New York Academy of Medicine, December 11, 1879. Pp. 19, 8vo. New York, 1879.

"Remarks on Excision of the Hip." Pp. 15, 16mo. New York, 1885. (Reprint from *New York Medical Journal*, 1885, Vol. XLII.)

"Some Notes Concerning Measles." *Babyhood*, 1896, Vol. XII., pp. 129-131.

"Concerning Phimosis." *Babyhood*, 1896, Vol. XII., 314-316.

"Constipation in Childhood and its Domestic Management." *Babyhood*, 1897, Vol. XIII., pp. 31-34.

"On the Care and Modification of Milk for Infants' Use." *Canada Lancet*, 1897-98, Vol. XXX., 487-497.

"Overstudy." *New York Medical Journal*, 1900, Vol. LXXI., pp. 225-227.

"The Diagnosis of Early Hip Joint Disease from Rheumatism, Neuralgia and So-Called 'Growing Pains.'" *American Medico-Surgical Bulletin*, May, 1893.

Being much interested in outdoor sports and especially in fishing, he wrote various magazine articles, several of which were published in *Outdoor Library*. ("Angling.")

But that was not all there was to our quiet, bright and versatile friend. He was credited by good judges with an unusual knowledge of the technical processes of the art of etching. In the establishment of the New York Etching Club he took an active part, and was its president from 1877-79. From the pen of Mr. Frank Weitenkampf, Curator of Prints at the New York Public Library, we have the following statement: "Dr. Yale produced several hundred plates, mostly landscapes, of which

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a certain number were in the nature of an artistic traveler's memoranda of places visited. The best of his serious work had the qualities demanded of painter-etching and found in the plates of the masters of the art—good composition, economy of line and a proper sense of both the possibilities and limitations of the etching-needle. Dr. Yale was, furthermore, an enthusiast on the subject of etching, who encouraged more than one to take up the needle. His name is indissolubly connected with the development of painter-etching in this country, and he took an active part in the founding of the New York Etching Club.

“He, James D. Smillie and the late R. Swain Gifford naturally come to mind together, and these three in fact were associated in the production of the little plate etched at the first meeting of the New York Etching Club, in 1877, Yale working the press. The original copper plate of this etching is in the print room of the New York Public Library, which institution possesses also a number of etchings by Dr. Yale selected by himself and representing his best work. Dr. Yale took an active interest in the growth of the library's collection of American etchings, gave a manuscript catalogue of his work, as well as one or two original copper and a number of etching tools, and urged others to follow his example. In recent years he found much pleasure in making pastel studies of landscape, but as an artist he will remain best known by his etching work. His is an influential figure in the history of painter-etching in this country.” That is why only lately the July number of the *Bulletin of the New York Public Library* counts up his name with those of J. Alden Weir, R. Swain Gifford, E. D. French, F. S. King, Henry Wolf, T. R. Sugden, and Geo. N. Boughton.

On as late a date as February 8, 1906, Dr. Yale wrote in his “List of Etchings, by Leroy Milton Yale, 238 plates now in the Lenox Library,” the following statement:

“They are not to be taken seriously, as a majority are merely slight sketches on copper, it having for many years been my habit to carry in my pocket a prepared copper in place of a sketch book, and to occupy moments

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of detention with etching anything at hand.—L. M. Yale.”

This somewhat elaborate reference to Dr. Yale's non-medical accomplishments will surprise only those whose ambitions and attainments are confined within the limits of professional study and practice. It is only the average mind that is satisfied with a single study, and most men's vision is limited by a narrow horizon. Still, we have gradually become accustomed to look up with admiration and approval to the few extraordinary men who combine medicine and literature in a rare degree. Their greatness has become our pride. Medical men, however, who have excelled in art like Dr. Yale are very rare indeed. His example should teach us that a proficient physician may be a master in other fields as well, and that in the very best of our race many and different sciences and arts may be combined to create a man whose erudition and practical work will be blended into a perfect ethical and esthetical harmony.

His medical attainments were not always estimated at their full value, though he had enjoyed opportunities to gather knowledge and attain proficiency to a rare degree. His early surgical career taught him accuracy and care in all his work, though he may gradually have shrunk from mechanical labor. But thoughtful surgeons are certain to become good diagnosticians. Their habits of precision he carried into the general practice of his later life, and he became a good practitioner in the best sense of the word, the very philosophical physician whom Plato delights in calling godlike. His heart was the equal of his brain. The kindly and lovable traits of his nature were exhibited both in his daily life and his professional work. That is what attracted him to children, and children to him. That, and his general information, acquired through the habit of utilizing every moment of his life, a good part of which was blighted by infirmities quietly borne, made him a delightful companion. Moreover, no man could be more averse to the prevailing commercial spirit of our period than Dr. Yale. Altogether, he was one of those, no matter at what age, always die too soon.

ADDRESS AT DINNER GIVEN TO PROFESSOR FRIEDRICH MÜLLER

“Nothing is foreign, parts relate to whole,
One all-extending, all-preserving soul
Connects each being, the greatest with the least.”

Nothing is foreign, least of all, our guest, who is at home everywhere. In his case Seneca's *nusquam est qui ubique est* is a mistake, for within a brief score of years he worked and taught in Munich, Würzburg, Berlin, Bonn, Marburg, Breslau and Basel, and guided by his star that led him upward, never a stranger in any land, never aware that any one could call him “foreign”; for to him his “all-extending, all-preserving soul connected” them all. That he is not foreign here, he knew before he started or landed. For only a year ago, Mr. Chairman, he made observations on your cortex and found your posterior central convolutions representing your feelings, and the anterior, representing your cordial handshaking, to be in the closest anatomical juxtaposition. You notice this is a quotation slightly perverted with poetical licentiousness. Nor can we think as of a foreigner of a man who, in a short period of twenty years, has enriched our knowledge in internal medicine, neurology, diagnosis, physiology, chemistry, and many questions connected with metabolism. Maybe, however, he lived in favorable conditions to do his good work, for to-night he would find it difficult in these surroundings to repeat his observations made fifteen years ago on hungry men.

Favorable circumstances seem to have been the destiny of his life, both intra and extra. For within the single year of his birth, 1858, Romberg found ataxia to be a symptom of tabes, Livingstone began his immortal travels along the lower Zambesi, Alfred Russell Wallace lectured before the Linnæan Society, and Charles Robert Darwin

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wrote on the survival of the fittest and published his theory of descent; Cyrus Field and F. A. Gisborne laid the trans-Atlantic cable; Frerichs discovered leucin and tyrosin, and wrote on the liver and on uræmia; Hermann von Helmholtz published his theory of consonance and dissonance; W. Thompson (Lord Kelvin) improved Garss and Weber's mirror galvanometer; Franz Cornelius Donders wrote on the formation of vowels in the oral cavity; and Virchow created his cellular pathology.

Imagine all that in his first year.

A few months later Kirchhof and Bunsen gave us the spectroscope. I never knew of a baby with such a splendid array of different attainments. You admit he began his career with a cynosure of accomplishments and promises. Verily the gods laid precious presents into his cradle, gathered from four different countries, all enlivened and enlightened by "one connecting soul." That soul is too big to be looked up in geographical boundaries. Indeed, it is from about that time, half a century ago, that science divested itself of its national character. When the superiority of the French in matters medical began to wane, the Germans took the leadership merely to make us understand that there is no longer a national, French or German, but an international medicine.

The generation of the American pupils of Louis, Laennec, André, Gavarret, and Piorry having died out, we, the Epicones of the last half of the nineteenth century, are constantly tempted to reckon our scientific life from Virchow's revolutionary appearance. But even his remarkable career proves that there is rather an evolution than a revolution. He was preceded by Schwann and Schleiden and by the French and the Vienna schools; they, by the slow progress developed in centuries. Copernicus, Kepler, Galileo, Newton, widened the intellectual horizon and prepared the mind for marvelous changes. Vesal, Harvey, Priestley, Morgagni, Lavoisier, accumulated new facts; Descartes and Bacon freed the mind from scholasticism. That is why one by one Sydenham, Boerhaave, Pringle, Haller, Hunter, Rush, and other great practical physicians became possible.

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This progress in developing both the aims and the home and head-center of all things medical—I mean practical medicine in its application to the wants and ailments of men—represents the very soul of history. Now and then, however, a link in the chain *was* defective. That is how Haller, Leibnitz, and Cuvier remained in some points sterile—it was because Pander and Baer lived a few decades too late to teach them embryology.

The “all-extending, all-preserving soul” of history may also be followed through thousands of years in connection with our modern bacteriology. Beelzebub’s poisonous insects known to Bible readers; Varro’s invisible flies, which, according to him, were the causes of marshy fevers; the “seed of diseases” in the teachings of Paracelsus; Athanasius Kircher’s doctrine of the *contagium animatum*; Loewenhoeck’s description of what he saw under his microscope; Lancisi, Reaumur, Linné, Plenoiz, Pringle, later on Henle—are so many stations in the development of what during these thirty years has been a forceful addition to our etiology, and consequently to our therapeutics.

What your toast, Mr. Chairman, calls “Soul-extending and preserving” is for medicine its growth and cohesiveness, and the interdependence of all its special parts. Modern specialties have been recognized as spontaneous necessities of study and practice. All the great national and international associations, though formed for the purpose of co-operation and consolidation, have, in order to perform their labors, divided up into special sections. That is their uniform method. As far as I know, however, the Congress of American Physicians and Surgeons is the only great national organization which resulted from the universal feeling that the special medical societies of the nation should acknowledge their alma mater, Medicine, by combining into a solid body medical, with regular triennial meetings. Only one of the components has withdrawn lately. In the interest of the medical organism, may it be the last. If there is anything highly creditable to the philosophical and scientific spirit of our country, it is the ideal consummated in the Universal Scientific Congress of the St. Louis Exposition of 1904. The idea of binding all

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sciences through a "connecting soul" into one endless chain, grew on the soil of America, that country which they would patronizingly praise, on the other side of the Atlantic, for its menial labor which was to change the surface of the country, to transform wildernesses into gardens, to feed their famine-stricken, to open homes to their starving millions and their political refugees. Let me say these few words, not of American self-praise, but of self-respect, in the presence of our guest, who many years ago was reported to look for the time when German students would crowd the gates of American schools, as ours do now pass into the doors of those of Germany.

If our political and scientific history were not replete with idealistic traits and tendencies as that of other nations, we should never have heard of a Declaration of Independence, nor of the Constitution of these United States. More, I will undertake to mate every idealistic statesman of Europe with an American, every idealistic physician of the old world with one of the new. They have their Montesquieu, Turgot, Necker, their Stein and Hardenberg, their Cavour; we have our Roger Williams, Benjamin Franklin, Hamilton, Washington, Jefferson, our Lincoln, Sumner, and Schurz. They have their Trousseau, their Bamberger, Oppolzer, Nasse, Kussmaul, and Gerhardt; we have Samuel Bard, Rush, Hosack, Drake, Da Costa, Pepper, Gross, Bigelow, Bowditch, our Krackowizer and the Drapers.

Let them glory, let us do the same—each, however, appreciating the wonders of the others. The "all-extending, all-preserving soul" of science and fraternity will thus connect men and nations. If we may not all, if only some of you may, reach their heights, let us meekly accept what we are told by Father Homer, viz., "That it is not to every mortal that the immortal gods manifest themselves."

The men I have mentioned were superior beings; their paths lay on the heights. Are their ideals to be stars only for us to wonder at—too far for us to grasp or follow?

At the head of my toast there is inscribed "Germany

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and America." It is particularly the Germans whom we have learned to admire and revere, for they have given us the full development of that medicine which was in its teens when I was young. It has been my privilege once to be a German; I owe Germany my first education. Political necessity and insight made me an American; common work and interest, besides the lifelong debt of gratitude to our country and to our profession, have chained me indelibly to this country and nation. It has been my yearning ambition to prove it. So, I believe I am fairly impartial when I compare the professions at large of Germany and America. Their fates were not identical. In Germany, like everything else, the medical profession was regulated by the Government; in America, by the profession.

There was a time when the general practitioner of Germany—merely because he was a member of a learned and revered profession—commanded respect. He was one of the honored class, *eo ipso*. He stood high on the social ladder. The Government gave the title and the license to practice and protected him and his dignity. Suddenly there came a change. In the German Parliament of 1869 they made a new "Gewerbeordnung," new regulations, for all the trades, and medical practice was selected to be a trade, no longer a calling or a vocation—regulation which did away with the professional privilege, dignity, and usefulness, besides proving detrimental to the welfare of the people. Why? and how? and by whom? My old friend, Dr. W. Leewe, in 1849, the last President of the semi-revolutionary parliament of Germany, and a practitioner of medicine in New York until an amnesty permitted him to return to Germany, claimed, when again sitting as a representative of the people, that the German nation was so enlightened as to be able to distinguish between a cultured physician and a quack, and that the practice of medicine must be free. Nor did Virchow, the great Virchow, contest. That is why quackery is protected by law, and quacks are almost as numerous in Germany as physicians; why the respect for the professional man has decreased, the doctor has been impover-

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ished and demoralized, and has begun in late years only to organize for self-protection.

As we have learned from and adopted the German medicine, so the German profession may learn from that of America. It organized itself as a body in the county, State, and Union; it has since an early time learned from the democratic spirit of the country to help itself and to rise; and to be considered in legislative bodies. It was always the profession at large in its county or State societies—not, however, unpaid or paid professors—that gathered around the flag of progress, that obliged the schools to lengthen their courses and add to their curricula. It was the democratic spirit of self-help that gave us a code of medical ethics, and when the progress of gentlemanly culture no longer required or approved of it, abrogated it.

So we may learn from one another—Germany from America, America from Germany. It is true, the political conditions are different. Here your elbow belongs to you. But the necessities of man and the duty of the physician are the same all over the globe. Only by consolidating our ranks and never losing sight of the ideal of our calling—everybody in his own way—can we become to the whole nation, to all nations, not only the individual restorer, of broken health or the protectors of a family, but the physical and psychical sanitarians of the people and the advisers of legislatures and the bench. Socrates wanted that 2000 years ago! Kant, a century ago. Let us all be connected for that purpose, Americans and Germans, “greatest and least.”

Aims, endeavors, and results have been individual, municipal, provincial, and national. Cosmopolitanism was for a long time the dream of a few philosophical brains only. Medicine has become cosmopolitan, international. I firmly believe that as a rule the physicians of Germany and of the United States are thoroughly imbued with that persuasion. Having been in a position to feel the pulse of my profession in these countries, I am convinced that amongst many others the following convictions are paramount with them and common to both:

Division of labor and differentiation of specialties are

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indispensable to the progress of learning and success in practice, but the specialist without a "connecting soul" is a dry-as-dust-hermit. Man, like the state, like mankind, is an organism, not a mechanical compound. So is Medicine. Medicine, as Clifford Albutt has it, with a capital M. In the study of it there are, these sixty years, no longer any different methods in different countries. Both methods and results are common; rivalry has become co-operation, nihilism is dying out. There is no longer hopelessness on account of unanswered questions; no nihilism, even in therapeutics, since we have learned to deal with a sick man and not with a morbid entity. "*Non ignoramus*" is justified and honest. "*Non ignorabimus*" is the despairing cry of pessimistic senility. Under the flag of working optimism only there is victory. That is why it is easy to make and be friends all over the world. For friendship amongst men means little sentiment, but much mutual appreciation of motives, methods, labors, and co-operation. That is what makes us rejoice that the ocean is becoming narrower from year to year, and the representatives of Germany and America may join in a cordial handshaking over results accomplished and the endless number of new problems to be conquered.

One of these men we are glad to have with us to-night, just as glad as if he had been heralded for months or years as a professional exchange by the grace of an emperor or a president, or even a banker. He knows he is welcome to whoever has or craves knowledge. The American profession has always been anxious to greet, to admire, to adore, real merit. Its modesty has even led it astray into exhibiting submissive deference to fresh drummers in the brass and iron business. The American Profession having met many meritorious or even great Germans in St. Louis, this company has to express its renewed thanks to its fate for enjoying the opportunity of listening to Paul Ehrlich, to Hans Meyer, and to Friedrich Müller.

REMINISCENCES OF MEDICAL PRACTITIONERS IN NEW YORK DURING THE PERIOD OF THE EARLY HISTORY OF THE ACADEMY

THE New York Academy of Medicine was founded in 1847, sixty years ago, by one hundred and eighty-four physicians. Two of those are still alive; one is Nicholas Lafayette Campbell; he resigned in 1849. I. C. Hepburn, a graduate of the University of Pennsylvania, has continued his membership since April 1, 1863, as a non-resident. He lives at 71 Glenwood avenue, East Orange, N. J.

These sixty years correspond with the existence of modern medicine established on two solid pillars, viz., sound and repeated clinical observation, and anatomical, local, histo- and bacteriological, and biochemical diagnosis. The rapid progress of medicine during this time in the United States is best explained by the unprejudiced blending of cool Anglo-Saxon empiricism with the readily adopted anatomical, pathological, and general laboratory work. You understand that I speak of that privileged part of the profession which is no longer where we stood sixty or more years ago, when the words paralysis, spinal irritation, dropsy, hydrocephalus, lung fever, continued fever, cyanosis, idiocy, convulsion, were taken or offered as full-fledged diagnoses, or when the principal etiological factors were colds, worms, and teeth, and the therapeutic refuge calomel.

The study of the discourses before the stated meetings of the New York Academy of Medicine and the gatherings of the best men of the profession will pay you. That is why I want you to look at least over the two first volumes of our Transactions and the two first volumes of the Bulletin. They were published nearly half a century ago.

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By so doing you will learn that many of the men who participated at a mature age in whatever came up for general consideration were those who will uphold our American fame for all times. It appears when they grew older they became more impressed with their responsibility to the profession. John Watson, Alonzo Clark, Fordyce Barker, J. Marion Sims, Gurdon Buck, James M. Minor, Ernst Kracowizer, John H. Griscom, and many more were always present, and gave their best. They discussed diphtheria, tracheotomy, sudden death during labor, albuminuria, fracture of the thigh, moral insanity, epilepsy, hip-joint disease, the eternal milk question, public health, pulmonary tuberculosis, human monstrosities, cyanosis, alcoholic stimulants, anesthetics, cerebrospinal meningitis, hematocele, lunacy legislation. Some of you may find, when perusing these papers and discussions, that several things which had to be discovered and rediscovered by persons ignorant of our medical history may be read with ease and profit in those old volumes. I may also assure you that in those distant times only very advanced age and sickness were reasons for staying away. The interest in the Academy and the profession exhibited by our old colleagues did not die out with the termination of presidential and other offices. To us, the young men of that time, many of them seemed like gods and demigods, but not, like them, invisible. They remained with us. White hair and bald heads were always seen in our meetings, and we young men were gladdened by their presence and the instruction gathered from their lips.

My memory recalls, however, some proofs that they were not all angels. Some of them knew it all, like, in our days, a hospital junior, and could not be converted, though it is true that the majority were anxious for any supply of learning or information near at hand or from afar. I may have to speak of the ignominious treatment dealt out to Horace Green, within my hearing, though before my membership, by the majority of a committee appointed for the purpose of looking into his local treatment of the larynx and trachea. Nor was it possible to keep the hatred and jealousy of the Civil War out of this Academy. T.

MEDICAL REMINISCENCES

G. Thomas, a Southerner, was charged with harboring Southern proclivities within his bosom and giving expression to them. He was the recording secretary, and the first year of the war was the last of his secretaryship. I think I am quite correct—for it is only forty-six years ago that it happened—when I state that he had only two votes in his favor, those of two abolitionists of foreign extraction. It is surely true that there are no blinder tyrants, nor greater enemies of public welfare, than the prejudices of race, religion, and politics.

Of my own time there are but few survivors. Stephen Smith joined 1855, Thomas Addis Emmet 1856; he writes history, and is happy in such, as he made himself; Dr. Mark Blumenthal, who at present enjoys his honeymoon, in 1857; Ellsworth Eliot in 1858. Him I should be tempted to call venerable if he had not succeeded in remaining young through the aid of his eternally youthful enthusiasm, fired by the study of the history of American medical, municipal, and social lore.

Having been permitted to indulge in personal reminiscences, I thought I could not entertain you better than by refreshing your memory through calling up names that should be dear to every American medical man. What warmth and enlightenment there are in history are best represented by biographies. The first president under whom I served was Valentine Mott, the excellent sketch of whose life has just been read by Dr. Smith. His name is familiar to everyone. He was president in 1849 and in 1857, when I joined the Academy. The history of his life may be studied to advantage by every medical man who is desirous of learning about and of appreciating the difficulties of medical study and teaching in bygone times. He died on April 26, 1865, nearly eighty years old. My personal intercourse with him was not exactly intimate, but he was prominent among the old and grand men that took kindly to the young foreigner who, if nothing else, was willing to learn and anxious to work. That is why I could not understand the cruel treatment Horace Green experienced at his hands. Mott was always active, always interested. Such vanity as he had I never had reason to

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feel to any disagreeable extent. He did not object to speaking of his surgical triumphs, but was more proud of his labors in the dissecting room. Once he asked me on the sidewalk in Fourth avenue: "Have you ever seen a double cremaster?" I looked puzzled. He laughed merrily and said: "I think nobody has," took me by the collar to his house in Gramercy Park, and there in a jar, lo and behold, there was "his" double cremaster.

His successor in the presidency was John Putnam Batchelder, born in New Hampshire, August 6, 1784. He died in New York, April 7, 1868. After having practised medicine on a license he took his degree in Harvard 1815. The last twenty-five years of his life he practised in New York, where he was the president of the Academy of Medicine in 1858. In 1817 he took the chair of anatomy in Castleton, Vt., afterwards that of surgical anatomy in Pittsfield, Mass. Of those early times he would often tell me of the scarcity of bodies, of the expeditions undertaken on the worst moonless nights to distant cemeteries, quite frequently armed, always prepared for traps and scuffles, and hairbreadth escapes. Smilingly he would say, with a twinkle in his eyes: "I was young then, and not at all stiff as you see me to-day." He became widely known by his operations on tumors, on stone in the bladder 1818, ligature of the carotid 1825, for sarcoma of the maxilla, which operation had to be followed by the removal of the maxilla (the first after Valentine Mott), 1832 removal of the upper jaw. If not the first, he was one of the first to remove the head of the femur. He wrote on inflammation, compressed sponge, cholera, and "thoughts on the connection of life, mind and matter in respect to education." That shows the variety of his interests. He never ceased to work and keep his eyes open. He tried to learn from his peers and his inferiors. When I was in Amity street after 1858, I had the good luck to live in his neighborhood. Very often he would come in with a specimen in whose histological structure he was interested. I never met with a man who was more enthusiastic over Virchow's cellular pathology, which he studied in Chance's translation of 1861.

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John Hoskins Griscom was born on August 13, 1809, in New York, and died April 28, 1874. He studied medicine in Rutgers College and the University of Pennsylvania, took his degree 1832, was professor of chemistry in the College of Pharmacy from 1836 to 1838, 1842 city inspector, and as such the head of the Health Department, and later attending physician to New York Hospital. City inspector he was a single year only, for the step-fathers of the town wanted a pliable and ignorant political tool. When in the Health Department he ruled that no burial could take place without a permit, the permit depending on a medical certificate. If you consider that New York had at that time nearly half a million of inhabitants—that meant a very large city—you will estimate the low state of our civilization only sixty years ago. Griscom's labors in favor of executing principles of sanitation remained inefficient before the legislature passed the first health laws suggested by him. In the three years following January, 1848, when he was Commissioner of Emigration, 700,000 emigrants landed on our shores. Twenty thousand had ship fever, and Dr. Griscom caught it. His memorial, exposing the hardships of emigrants due to the lack of food and accommodations, overcrowding in steerages, absence of medical care, cruelty of captains, brutality of sailors toward men, and still more toward women, and the indolence of our laws and lawgivers, was a state paper of great value, and certainly contributed to open the eyes of the public, if not the hearts of the legislature. Fifteen years he was a member of the prison association, and ten years the chairman of its executive committee. Many laws ameliorating the fate of the prison inmates are due to his initiative. In this Academy he was seen very often, never without a contribution, never without exerting a great influence, both on account of the value of his words and of his impressive presence, and often passionate bearing. He spoke best when his warm heart was full, and warm and full it always was. If every generation had many men of his stamp, with complete mastery of the subjects he was interested in, a clear understanding of what was wanting in our public affairs, a

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generous heart which made him offer his labor unstintedly in the public service, the community would be better off, and the profession stand as high in the estimation of the thinking part of the public, as in that of many of the sages of antiquity and modern times.

William Currie Roberts, born in London, 1810, emigrated to New York 1820, graduated at the College of Physicians and Surgeons, 1832, founded 1835 the first infirmary for the diseases of women and children (in 361 Broome street), which had soon to be closed on account of lack of funds, started a class for women and children, and nervous diseases in the Northern Dispensary in 1844, was afterwards physician to the city prison, and to the Park police. In the third year of the Civil War, 1864, he was an enrollment officer. Much money was made at that time—not by him; the cowards, the tradesmen, the sympathizers with the rebellion paid heavily for being permitted to stay at home, or for not furnishing a substitute—not to him; the love of country came second to that of the bargain counter or of the shoddy factory; graft was the shibboleth—not to Roberts. He died poor, and the well-to-do persons called him “a fool.” In the profession he was highly esteemed for his scientific attainments, his frequent contributions to the discussions of the Academy, his probity, aye, for his occasional ebullitions of temper, always, however, exhibited in the cause of right and justice.

Dr. John W. Francis was born 1789, when Washington was inaugurated in the city of New York as our first President, and died on the 8th of February, 1861, a few weeks before the attack on Fort Sumter. Perhaps some of my readers who were born before yesterday may remember when and what that was. So his life is of exactly the duration of the first great period of our national existence. In the history of the nation in its social and political development, in its incipient literature, not only medical, he took the warmest interest. He was a keen-eyed, warm-hearted, plain-spoken, and generous-minded man, a practitioner of wide repute, and the consultant of the greatest authority, not only in obstetrics, to which he gave special attention; and for a number of years a teacher of

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the institutes of medicine, or of *materia medica*, of medical jurisprudence, and of obstetrics and forensic medicine in the Rutgers Medical College and in the College of Physicians and Surgeons, of which he had been the first graduate. You must not smile at the multiplicity of chairs he filled in a dozen years and of things he taught. You must not forget that this took place nearly a hundred years ago, that the limits of knowledge were narrower than to-day, that the great men in the profession had spent all their lives studying classics, history, and medicine, and its adjuvants, and that there was no specialism of nowadays. Not half a hundred years before Francis it was considered natural that a profound mind and studious worker could be both a great medical man and a thorough philologist; not thirty years before Francis, Albrecht von Haller taught anatomy, physiology, botany, and the practice of medicine, and was the examiner in surgery, though he never performed an operation. Nor should we, in the America of the twentieth century, be too generous with our ridiculing smiles. Many of us know that within our own time, within a score of years, men would teach in our own colleges, willingly or unwillingly, physiology, *materia medica*, and surgery, or *materia medica*, physiology, and obstetrics. Let us fervently hope that medicine will for the future, get the better of politics and money, or social influences in our schools, and that this future may arrive soon, while some of us may still enjoy that felicity.

Dr. Francis' sojourn in Paris, London, and Edinburgh brought him into connection with eminent men, such as Cuvier, Gall, Gregory, Playfair, Brewster, and many others. His literary and artistic tastes kept him in constant contact with professional men of all kinds. That is why very few men whom I knew in the profession of New York could at any time compare with him in mental breadth and vigor. He was very social when you knew him more intimately, and inclined to be jocose. I had seen him a few times only, when one day he stopped me at the corner of Broadway and Bond street, near where he lived. "They speak well of you," he said, "and you will get on; only people want sometimes some outward show. Now, I

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am an old man, and you will not mind it when I say you ought to have another tailor." I replied: "You see, Dr. Francis, you are an old doctor, and famous, and you can afford to wear the old-fashioned clothing of the eighteenth of Brumaire and of the century of William Penn, but I cannot afford yet a better tailor." He laughed, took me to his office, and we had a pleasant half hour, at least I, for he tried to make me believe that I taught him something of medical doings in Germany, with which he said he was not so well acquainted as with the affairs of Great Britain and France. My remarks on his clothing appeared rather to please than to shock him. He was somewhat inclined to be a little pompous, and the cut of his clothing was fashionable when he was a boy. Otherwise his mental outfit and the breadth of his knowledge, and manifoldness of interests, and wide general horizon have often reminded me in after years of our friend, William H. Draper, who had all the accomplishments of Francis, perhaps some more, but without vanity, and with an undisturbed temper and unruffled, kind-hearted geniality, all of which outlasted his health. Draper was to the end of his days, with the exception of Ernst Krackowizer¹, who was his equal, the finest specimen of a thoroughly cultured medical gentleman of his generation.

Under Dr. Hosack he took part in the editing of the *American Medical and Philosophical Register*, and with Beck and Dyckman, of the *New York Medical and Surgical Journal*. "On the Use of Mercury" was published 1811, "Some Morbid Anatomy Descriptions" 1814, his edition of "Denman's Practice of Midwifery" 1825, "Letter on Cholera Asphyxia" 1832. The history of New York was published 1866.

At the age of sixty-five years, there died in 1864 James Stewart. In him I was very much interested, on account of his exertions in the interest of sick children. In 1839 he translated Billard's diseases of children, in 1841 he published a "Practical Treatise," in 1852 "A Few Re-

¹ Unfortunately, to the eternal detriment of the profession and the community, Krackowizer died as early as 1875.

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marks About Sick Children in New York, and the Necessity of a Hospital for them, by Philopoedes, an ex-Dispensary Doctor," in 1857 the Academy of Medicine prize "Essay on Cholera Infantum," and was busy in collecting a fund to establish Christ's Hospital for Sick Children. In an obituary he was called "retiring and thoughtful, yet humorous." The first was certainly true; the latter he may have been when I once left his house in Abingdon Square. It happened this way. I was very anxious to make his acquaintance, and told him so when I called upon him without any other introduction than my assertion that I was interested in diseases of children, and desired very much to have him co-operate, or rather lead, in the establishment of a children's section in the Academy. Indeed he was "retiring," my visit was a very brief one; I was chilled all through. I see myself still sitting down on one of the stoops in his block pondering over my misdeeds and what sin I might have committed. I must have risen after a while, but I am pondering yet.

In regard to my pediatric efforts, I was more fortunate when I approached a younger man, Mortimer G. Porter, who died November 24, 1863, of typhoid fever, at the age of thirty-seven years. He aided me in the attempt at establishing a section for the diseases of children in the New York Academy of Medicine. Either the time, or we, were not matured for that achievement. It took twenty-five more years to consummate what we then planned. Meanwhile a similar section was established in the A. M. A. Its first meeting was held at Richmond with the co-operation of Samuel Busey of Washington, whose interest in all subjects connected with medicine and the welfare of the medical profession should always be remembered. I cannot sufficiently extol the interest and labor bestowed on the perfection of our plans by Dr. T. M. Rotch, at that time not so famous, but quite as active as to-day.

Another young man who died much too soon was William Rice Donaghe. He was born in New Haven, Conn., 1830, and died in the Bloomingdale Asylum after a long illness. I knew him well. A year after I tried my feeble strength in the spring course of 1857 of the College of Physicians

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and Surgeons, he and T. Gaillard Thomas arranged private courses in anatomy and obstetrics at 104 Third avenue. They insisted at that, for us, early time on practical work; dissection and the application of the forceps were taught, and their school was successful. He was a manly, tall, blond, long-haired man, with a pale, fearless face, and upright and outspoken, sometimes, as a few thought, too much so. When he was taken sick, some said, "I told you so." But it need not be insanity that makes a manly man outspoken, fearless, and pounding away when he is right.

Dr. George Thomson Elliott was born May 11, 1827, and died on the 28th day of January, 1871. After graduating in the University Medical College in 1849, he spent three years in Edinburgh, Dublin, London, and Paris, worked in the lying-in hospital from 1852 to 1854, and was one of the founders of the Nursery and Child's Hospital. With the Infant Hospital on Randall's Island and the New York Women's State Hospital he was connected at an early time. He taught anatomy at Woodstock in 1856, and was one of the founders of the Bellevue Hospital Medical College in 1861. He missed a great chance, when the new school was established, in not daring to insist upon at least a three years' course and a shorter vacation. I had for some time been connected with the New York Medical College in East Thirteenth street, and knew the shortcomings of our college methods from my own observation. Perhaps he was too much bent on pleasing, for he was genial, amiable, and sociable, to exhibit the courage of a reformer, or even a revolutionist. In a large general practice, which was promoted by his social connections, his general achievements, and his knowledge of French and Spanish, and by extensive obstetrical and gynecological work, he exhausted himself and fell an early victim of apoplexy. He was the first to be in possession of the hypodermic syringe invented in Paris by Pravaz, 1831, for the purpose of injecting chloride of iron into aneurysms, and introduced into Edinburgh, 1858, by Alexander Wood through a pamphlet entitled: "On a New Method of Introducing Medicine Into the System More Especially Applicable to Painful Local Nervous Affec-

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tions." In the summer of 1858 Elliott visited that city, and carried with him to America some of the valuable instruments. He gave me of his bounty. I need not say that after they once entered America they were soon generally known among us. You may wonder why it took years before one of the most useful inventions crossed the ocean. Still, fifty years ago it was big and vast. Elliott's "Obstetric Clinic" was published in 1868; it proved a vast improvement on similar previous works, and spread his reputation over the States. The book was preceded and followed by a number of magazine articles. He was always diligent, studious, zealous, and withal gracious. He should be remembered as a man of taste, a refined scholar, an amiable colleague, and should not be forgotten in this, our fast-living, time. His linguistic advantages, as I said, were many, but not quite so varied as he thought. Once he returned from Germany and France, and hailed me with the exclamation: "I know German." I requested him to tell me something in German. He posed and said: "Kellner, eine Flasche Markobrunner." I laughed, and asked him to say something else. "Don't ask me too much," he replied. "I had only a few weeks and a great deal of practical work to do, but I do know something else." "What is it?" "Kellner, noch eine Flasche Markobrunner."

James Livingston Brown was born April 2, 1831. He furnishes an example of a typical American career cut short by death. He attended the public school, was a pupil in a private school in Canal street, and paid his fee by serving as janitor. He began early to teach Latin, Greek, and the rudiments of music. He had a scholarship in Columbia College, received his B. A. in 1852, and A. M. in 1868. In his vacations he would peddle thermometers, pens, and what not in New York, Albany, Boston, and Philadelphia. Add to this indefatigability and ambition, amiable manners, and great personal charm and modesty, together with the idealistic tendency not only to become prominent but also useful, and you have the picture of what makes a great doctor and a good citizen. After his graduation in 1856 in the University Medical College, Dr.

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Brown soon rose in the opinion of the profession, if not in riches—for it was not his love of music alone that made him retain his place as organist in St. Luke's Church fully seventeen years. He was long connected with Demilt Dispensary, with the Health Department as a sanitary inspector, and with Professor G. T. Thomas as his chief of clinic. His practical work turned more and more to be gynecological, and his contributions to literature belonged mostly to that specialty. Few may have known that the case of diabetes in a baby of less than two years, described in the first volume of the *Journal of Obstetrics and Diseases of Women and Children*, 1869, occurred in his own child. That was one of the accidents occurring in a life full of hardships, exertions, and incipient successes only, which promised so much and was cut off too soon.

David Meredith Reese died March 13, 1861, after having occupied the chair of the Practice of Medicine in the New York Medical College for several years. Born 1800 in Maryland, he graduated from the Medical University of Maryland 1819, and became a vaccinating physician in Baltimore 1824. He was professor in Castleton 1841-42, in the Washington University of Baltimore 1842-45, then in Albany, N. Y. Afterwards he became resident physician of Bellevue, New York, and one of the founders of this Academy in 1847. Cordell, in the medical annals of Maryland, speaks of him as an extensive writer on yellow fever. In 1844 he published an American edition of Cooper's dictionary of practical surgery, and edited until his death, which occurred in New York, May 13, 1861, the *American Medical Gazette*. Being his colleague in the New York Medical College, I knew him well. He was a queer mixture of Southern humor and dyspeptic grimness, a hard worker, and open to scientific suggestions, no matter whence they came. He was older than most of his colleagues, but the small hours of the night never frightened him homewards from the northwest corner of University place and Eleventh street. His anxious life companion blamed us for his early death.

Dr. Richard J. O'Sullivan was born in Ireland, 1833, and died in New York May 16, 1896. He read a paper

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on school hygiene before the New York Academy of Medicine June 19, 1873. He was sanitary superintendent of the Board of Health and for some years sanitary school inspector, until the office was abolished. One of the results accomplished by him was this: that of 40,000 children vaccinated by him not one was taken with smallpox during an epidemic of that superfluous, preventable, nasty disease of medieval semi-civilization, the pet of anti-vaccinationists. That is what he did, and many more things. In appreciation of his merits, the Board of Education rewarded him by abolishing the office of sanitary school inspector. In his paper, which was discussed by C. R. Agnew, A. Jacobi, and John C. Peters, he claimed equal rights for physical and mental culture, censured the iniquitous habit of sending children to school prematurely—he found children of four years in the public classes—and claimed that “seven years is an early enough age for a child to be sent to school.” That is the same conclusion I arrived at in my contributions to Gerhard’s “Handbuch,” 1876, and to Buck’s “Hygiene,” and which, fortified by further studies, I am prepared to uphold at the present time. He insisted upon a proper division of time in schools, short lessons, and long recesses, mainly for the very young. Perhaps you are aware of the circumstance that, within a few months this last year, when the question of the shortening of the school hours was discussed by the authorities, it was proposed to insist upon an uninterrupted instruction of the unfortunate young victims through three full hours in succession. If there is a more direct method of raising a nation of invalids and idiots, I am not acquainted with it. O’Sullivan rejected the drill-sergeant exercises and demanded spontaneous sports and amusements during the recesses, objected to insensate cramming, recommended measures for the protection of the eyes, and for ventilation of the classrooms and against the dissemination of contagious diseases. What happened? Dr. Ellsworth Eliot, president of the County Society; Dr. Austin Flint, president of the New York Academy of Medicine; Dr. John C. Peters of the Journal Association, and a number of others, memorialized the Board of Education in behalf

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of the reappointment of Dr. O'Sullivan as sanitary school inspector on April 12, 1873, the *Medical Record* of September 15, 1873, and the *Evening Post* took an able part in the discussion, all to no purpose. Thus the office created on January 1, 1871, was on April 30, 1873, abolished by the Board of Uneducation. Please to remember that Dr. O'Sullivan worked and wrote for medical school inspection more than one-third of a century ago, both as a member of the Academy and of the medical society of the county, and as a conscientious citizen of the Commonwealth.

John C. Peters was born on the 6th day of July, 1819, in Long Island, and died on the 21st day of October, 1893. As a child he lived in Varick street, as a boy in Bethlehem, Pa. He studied medicine in Berlin, Vienna, and Leipzig. In the minutes of the stated meeting of November 14, 1842, his name appears for the first time in connection with the Medical Society of the County of New York. It was resolved that his examination before the Comitia Minora be sustained, and that he receive a license entitling him to practise physic and surgery. Of the same society he was president in 1866 and 1867, after Henry B. Sands and before Freeman T. Bumstead, George T. Elliott, and myself. The example of a relative who was an influential homeopathic physician in the city of New York, prevailed upon the young, inexperienced doctor to join homeopathy. His social connections with many of the prominent families of the city who partook of the sectarian infection which had spread rapidly on account of the persecution from which the homeopaths had to suffer at the hands of the regulars—a shortsighted and suicidal policy—secured for the cultured, witty, and refined newcomer an extensive and lucrative practice. During that period of his life he began his literary career. Between 1853 and 1856 he published books and pamphlets on apoplexy, headache, diseases of the eye, on married females, one the brain and nerves. They were in part original, in part adaptations of the writings of Rückert, a German homeopathist, and every one of them homeopathic. His paper on "Materia Medica" written from 1856-1860

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bore the same stamp. For years he was the chief editor of the *North American Journal of Homeopathy*, the author of several works on homeopathic practice, and the leader, or surely one of the leaders, of what at that time was called a school. You may be able to appreciate the surprise both of friends and foes when, on August 17, 1861, he published in the *American Medical Times*, then the most influential weekly of the United States, his renunciation of homeopathy. Many hands were raised against him, many armed with clubs. One of the most ethical of our brethren, fed on the dogmatic rule of the code of ethics of the American Medical Association which prohibits newspaper advertising, declared he would not be satisfied until Dr. Peters would publish his renunciation in the daily papers. But he himself remained anonymous, like other cowards. That no friend was left to John C. Peters among his homeopathic colleagues is self-understood. But such was the character of that staunch and steadfast man that neither the suspicion of what was the regular profession, nor the enmity of his associates, nor the loss of a lucrative practice, swerved him from what to him was the plain duty of a scholar, a man, and a gentleman. He survived enmity, however, jealousy, and pecuniary injury, and enjoyed to his last days the profound respect of the profession. He was, 1844, one of the founders of, and an earnest worker in, the New York Pathological Society, and for years the editor of its proceedings, but was forced to resign on account of his homeopathic connections. He was one of the founders and presidents of the Medical Library and Journal Association, which contributed so much to the greatness of the library of the New York Academy of Medicine by the donation of all its books and journals. He exhibited a great and important interest in infectious diseases, mostly in Asiatic cholera, on which he began to write in 1866. Almost every year thereafter he added to its literature up to 1873, and again in 1885. His main work, of a thousand pages, was published by Congress in 1873. For the Health Board of New York he studied and wrote on yellow fever in 1878. As he was a believer in the filth origin of infectious fevers, it came natural to him

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to adopt, when the time matured, the bacteric etiology. I knew him well; that is why I want you to know him, and to remember his name and doings. He was learned, had a general broad, classical, and modern education, and extensive reading. To the last hours an earnest student, a facile and fluent writer, witty and sarcastic, but mostly of a kind humor, and respectful. His temper would sometimes get the better of him, but, as a rule, he controlled it, for he was just to everybody and loyal to his friends. Best of all he was fearless, as is shown by his renegation of what then was called homeopathy, and a good citizen, ever active in medical affairs, and devoted to the interests of the profession. One side of his character and doings is well illustrated by the following letter, which appeared in the *Evening Post* many years ago. It reads as follows:

“ TO THE EDITOR OF THE EVENING POST:

“ SIR:—It is interesting (and not least so to those who worked in the Sanitary Commission towards the assuagement of the inevitable horrors of civil conflict) to hear anything authentic in illustrations of what Miss Wormeley's calls ‘the other side of the war’; and such reminiscences are still more worthy of record if they tend to harmonize, for current uses, the feelings of those who, though once in deadly array against each other, ought now, for their mutual good and for the advance of general civilization, to meet in purely fraternal relations.

“ I repeated last night to a sister of Dr. Peters what I had read an hour or two before in your issue of yesterday evening about his refusing a fee from a Union soldier for professional services rendered during the war, whereupon she told me this: Dr. Peters was in the habit of attending, without charge, those soldiers needing medical attendance who were quartered during the conflict at Camp Scott, on Staten Island. When Mobile was taken by the Union forces, the house belonging to one of Dr. Peters' friends—deserted by all its residents but one negro—was entered, as lawful prey, according to the ethics of warfare in an enemy's country, by the bluecoats, consisting mainly, in this instance, of a contingent from Camp Scott, and the

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faithful servant was, of course, powerless to stop the looting they immediately began.

"But among the decorations of the walls was a portrait of Dr. Peters. This discovery changed the situation. 'Boys!' cried the leader of the Camp Scott men, after some explanations from the old negro, 'here's the doctor's portrait. We can't touch this house. It belongs to one of his kin. Let's skip, and try somewhere else.' And undespoiled it was accordingly left to the old caretaker, his friends reaping where Dr. Peters had sown.

"A. J. BLOOR."

The two last named men died within a dozen years ago. Very few of you, however, remember their labors, even their names, for what Sir Thomas Browne said three hundred years ago is surely true: "The iniquity of oblivion blindly scattereth her poppy, and deals with the memory of men without distinction to merit of perpetuity." Thus it happens that otherwise good and true men forget the benefactors within their own ranks, that the men who, by accident or push, are able to arrogate high places, are remembered, and the memory of the modest, consistent, warm-hearted, far-seeing, and altruistic is buried with their caskets.

I wish I could contribute to changing all that.

ADDRESS DELIVERED ON GERMAN DAY AT THE TUBERCULOSIS EXHIBITION

THIS exhibit, which for the next five weeks will be open for your inspection during the greater part of each day, owes its presence in New York to the tireless exertions of Dr. Alfred Meyer, to the liberality of public-spirited citizens, to the intelligent action of the city authorities, and to the hospitality of this great museum. During the three weeks' session of the International Tuberculosis Congress in Washington this exhibit rendered invaluable service both to the physicians and to the public at large. It is a model object-lesson, such as has never been seen before. I can, of course, call your attention to only a few of its features; the most efficient teachers are your eyes and ears. Whatever they see and hear will be impressed on your memory—only that which is perceived through the senses is thoroughly assimilated by the mind. Therefore I cannot urge you too strongly to follow the practical demonstrations and explanations carefully and often, and not to miss the addresses as they are announced. You have only five weeks more in which to enjoy the benefits that are offered you, and that probably will not be offered again.

Among the exhibits there is nothing intended for certain classes exclusively—nay, there is a great deal which, while of interest to the physician trained in pathology, still is intelligible and important to the laity. It is important to every one of you to see with your own eyes the many-sided ravages caused by tuberculosis in the human body—of the utmost importance to see the swellings of the glands, the swellings and suppuration of the bones, abscesses on fingers and feet, curvature of the spine, and, above all, the manifold damage done by the disease to the lungs. Study these objects—they are perfectly clear in

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the form in which they are offered to you. You should observe particularly the great abscesses and cavities in the lungs, to remind yourselves of that which, if neglected, results in death, but which, if early recognized and suitably healed, can be cured, or at least stayed from further development. Thus you can learn here how to get along without a physician, or how best to help him. The ounce of prevention, of which we hear so much, lies within your grasp; the pound of cure is not always to be had. Modern medicine lays more and more stress on the importance of prevention; and through this exhibition you can learn how to work in co-operation with the doctor, if, indeed, you need his services. The modern physician is ever ready for mutual helpfulness of this sort. The medical profession is no commercial trade, but a self-sacrificing calling. It is not a unique case that of my much-occupied Philadelphia colleague, who strove, and with much success, to purify the city's drinking water, and who told me that the loss of typhoid fever cases, nine-tenths diminished through his efforts, meant to him personally an annual loss of three thousand dollars. You know from your own experience that in every movement for improved health conditions the doctors stand at the head. Effective work of this sort has been done by the Academy of Medicine, the County Medical Society, occasionally also by the German Medical Society, by the Mayor's Milk Commission and the Health Committee of the City Club.

In this exhibition you can learn much about milk which you may or may not already know. The exhibit of Mr. Nathan Straus teaches the method of Pasteurization, by which poisonous germs are destroyed—and not alone those that cause tuberculosis. For Pasteurization saves human lives through the destruction not only of tuberculosis bacilli, but of those that cause diphtheria, typhoid and enteric diseases—bacilli which are destroyed through proper Pasteurization, without harm to the milk. Many thousands of poor babies have been saved to their families by means of the Straus milk depots. He surely will not, or should not, object if the milk is not always quite scientifically Pasteurized; scalding it, and then cooling it on

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ice, is a good way, too. Long-continued boiling, however, destroys not only the germs, but the milk as well. People who prefer Latin to German call this sterilizing, and many of them pride themselves on worrying to death the good, vital cow's milk with a lengthy process of sterilizing—and the babies along with it!

There is still more to be seen. There is a cow-stable—a real stable and a real cow! There you may see how a cow is kept clean, the udders washed, as well as the milkman's hands and the utensils in which the milk is preserved free from dirt, dust and hair. Babies do not thrive on a diet of cow manure, cow hair and dirt from the farmer's hands. All this you may here observe and study; and you will incidentally appreciate the difficulties encountered by our health authorities in their efforts to correct for us the ungrateful and fault-finding sovereign people, and to make clear to us the protective measures against tuberculosis, diphtheria, typhoid fever, etc.

Thereby hangs a tale, and a very important one, for it concerns the greatest and most important part of the American people—the babies; and tuberculosis, the subject of this exhibition.

In 1901 Dr. Robert Koch, the famous discoverer of the tuberculosis and cholera germs, stated before the Tuberculosis Congress in London that the difference between the tuberculosis bacilli found in human beings and those in animals was so marked as to make unnecessary the measures directed towards keeping milk absolutely clean, germ free and safe. That, at least, was the general interpretation put upon his words, and in France, England and America, in our own New York Academy of Medicine, addresses were made in the same vein. These views were promptly contested. Every language contributed to the literature of the subject. The natural outcome of all the real and supposed declarations of the renowned Robert Koch was money in the pockets of the farmers, the producers and distributors, etc. The protective measures of our health authorities were ridiculed, and the official inspectors, who were supposed to keep watch over 30,000 dairymen within a radius of 400 miles, naturally could not

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do full justice to their task. In Washington, recently, the same topic was thoroughly discussed. It is not true, as reported, that Koch met, on this occasion, with unfriendly or even hostile treatment, and that he left the Congress a discredited man. The fact is that there is no country in which Koch is held in higher esteem than in our own; but we are not in the habit of regarding the utterances of even the greatest authorities as inspired gospel. Koch, as we all know, holds the opinion in common with Theobald Smith, of Boston, and the *Dutch Tendeloo*, that by far the greatest number of cases of consumption, perhaps 90 or 95 per cent., are contracted, not from milk, but through infection from sick patients, and that a small proportion only, 5 to 10 per cent., are traceable to tubercular cow's milk. This proportion Koch declares too small to count for practical purposes—in short, a negligible quantity. It seems to me, and to thousands of others, that the 5 or 10 per cent. who owe their tuberculosis to milk would not, if the question were put to them, consider themselves a negligible quantity of no practical moment.

That is Koch's single mistake; for too much stress cannot be laid on the necessity of having clean milk, and of guarding babies against tuberculosis, even if what they swallow contains cow bacilli only, and not human! We should remember that the last word has not been said in regard to the relation of the two types of bacilli; that it is important, moreover, for the dairymen to keep themselves, their cattle and the milk perfectly clean; that it is of vital importance to all of us that money should be provided for one hundred additional inspectors, as the Mayor's Milk Commission demanded, in order to accustom the producers to obey the law. Remember, further, that so long as you pay taxes, you have a right to expect a sufficient proportion of the money to be devoted to protecting the health of yourselves and your children. Pray, therefore, take a look at the cow-stable; it is worth your while. The matter is so important that I shall quote Koch's own words:

“Koch wants the measures to combat human tuberculosis to be adopted in accordance with the fact that human

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tuberculosis of the lungs—'consumption'—is not caused by the bovine type, but by the human type of the tubercle bacillus. That is why he objects to diverting attention from the main point. His main point is this, that the fight against cattle tuberculosis, which is necessitated for agricultural and economic reasons, should be unnecessarily connected with the fight against human tuberculosis. As you know, Koch never objected to measures undertaken for the acquisition of milk and milk products free from disease germs, for the very reason that impure milk may cause typhoid fever, etc. His only objection is the prominent place occupied by these, it is true, very useful measures when the fight against tuberculosis is discussed. He points to the fact that, indeed, by the adoption of these measures against the dissemination of human tuberculosis favorable results have already been obtained."

These sentences are quoted from a paper of Dr. Koch, dictated to and published by Pannwitz in the *Berlin Clinical Weekly* of November 2d, 1908.

The dispassionate critic, however, must not overlook the fact that, although the milk of tubercular cows in exceptional cases only causes consumption in children, it nevertheless is directly responsible for tuberculosis of the bones, of the glands, and of the meninges. That is something which Koch ought to have made clear, in this connection, in justice to his own distinction as a scientist and to his imperishable fame.—Beware, therefore, of raw, tuberculosis-infected milk; and take a look at the cow-stable!

It is well worth while to study other parts of the exhibit. You will be told that the number of cases of consumption has decreased materially. That is very true, but the number of deaths from all diseases, not alone tuberculosis, has been diminishing these many years, and in like ratio. Do not, therefore, be too much encouraged by the assurance—credited to Koch—that our New York methods of fighting tuberculosis are almost "ideal," and that during the tenure of office of our present rulers these conditions will become quite ideal. My understanding of this statement is that Koch can be polite—too polite—and that our officials discount heavily the accomplishment of their and our desires.

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Whoever takes the trouble to look about him, knows that in New York millions of human beings are crowded into tenement houses without sufficient light and air; that there are 360,000 rooms, so-called apartments, without windows, and thousands of ill-smelling sweatshops without ventilation; that there are many thousands of factories without spittoons and without air, and thousands of half-dark flats which shelter families of five, often with three, four or five boarders to boot; and that there are thousands of families, supported by the labor of women and children, who suffer from acute diseases which are not treated, and from chronic troubles which are not cured—from scrofula and inflammation of the bones, which are or pave the way for tuberculosis and develop unhindered in stunted bodies. It will do you no harm to read through more than once the ordinances against spitting, and to recall the filthy condition of our elevated steps and platforms, where occasional dry sweeping stirs up the dust, and where the employes themselves violate the law a hundred times a day. All these things I want you to observe, and remember; be apostles—"Go ye therefore and teach all nations." And do not merely promise improvement, but help to bring it about, politically, economically, socially.

All this you will find illustrated—best of all in the German exhibit. The history of the world pursues strange paths. Quite unconsciously, but animated doubtless by a statesmanlike spirit of prophecy, did the famous Otto von Bismarck, the ruthless absolutist, put the principles of insurance upon a sound political and social basis—sickness insurance, old age and invalid insurance. He interested thousands of rich and millions of poor in a common undertaking, made every man a shareholder, created a feeling of mutual responsibility, caused everyone to do his share in developing and improving contemporary conditions, and perhaps in shaping the future through evolution—after we old ones, when we were younger, thought the change could be forced only through a revolution. So Bismarck, like Karl Marx, the great theorist, became the great practical agent of socialism.

This exhibition will prove in many ways enlightening.

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Besides the tables of statistics in regard to illness and death, from tuberculosis and other causes, it proves that in the political and social organism no question that vitally affects the life of the people can be treated exclusively by itself.

The German maps and dates and models are among the most instructive things the exhibition has to offer. But Germany does not stand alone; the city and State of New York bring much of interest and real importance; even Ireland, which formerly stood sulkily aloof, came quickly and efficiently to the front as soon as America called. The exhibitors number 418, chiefly Americans, from every State in the Union; but scarcely a civilized nation of the globe is unrepresented.

REMARKS AT BANQUET IN HONOR OF ROBERT KOCH

THE nineteenth century has brought forth four epoch-making men in medical science: Bichat, Virchow, Pasteur, and Koch, three of them—Virchow, Pasteur, and Koch—famous for their clinical work; two—Pasteur and Koch—for their achievements in modern therapeutics and preventive medicine. These men serve to modify the old dictum that history makes men, not men history. It is true that all, even the greatest, stand on the shoulders of their predecessors, for “the inheritance of the fathers is great,” but it is also a matter of demonstration that those who are privileged to point out new paths for investigation and new phases for the development of human society, *make* history—their own and that of humanity.

The one survivor of the three great men, who has given the lie to the Crotoniate Alkmaion, who asserted that only the gods possessed complete knowledge of unseen things, we have now the honor, and I personally have the pleasant duty, of receiving as a guest of the German Medical Society and of the Medical Profession of America, greeting him in his and my own mother tongue.

Koch is the mediator between Plato and John Hunter, or I should rather say, the combined edition of both. Plato thought lightly, or rather was an enemy, of experimentation and observation. He constructed as a result of pure thinking. Perhaps this was the reason why he declared that the practice of the art of healing was not a decent calling. John Hunter, on the other hand, admonished his followers: “Try, do not think.” In a less categorical but more intelligible manner Bacon taught long ago: “Non fingendum aut excogitandum, sed inveniendum, quid natura faciat aut ferat.” Robert Koch, without indeed lacking in thinking, has labored in accordance with Bacon’s principle and has spread the light of knowledge through many minds and has kindled the warmth of gratitude in innumerable hearts.

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This light and this warmth which have come to us from the sun of the distant East, have brought rich fruit from out our soil. With the same promptness with which Germany and some of the neighboring countries have developed their laboratories and new clinics, America has followed the given impulse through the common co-operation of the physicians and the universities and the private philanthropists. Unfortunately it is also true that we do not only imitate but also ape. For we, like Europe, also suffer from avalanches, actual floods of thick handbooks and superfluous or even harmful productions stimulated by ambitious publishers and manufacturers. Foam and slime are thrown up by scientific revolutions just as by political ones. Thus we stand shoulder to shoulder with Europe for better and for worse.

Leading names of our investigators, or of those of international fame, I shall not quote, but I shall mention some great achievements. In this class belong first of all the regularly appearing half dozen journals dedicated to experiment and research. In this connection it must not be wondered at, that many of the published special works have a direct bearing on practice or at least have the latter in view. This is what Benjamin Franklin meant when he said, "What signifies philosophy that does not apply to some use." This is also what Robert Koch means. His irksome labors were in the first place the realization of the thirst for investigation and knowledge, but always with the object of applying the results to the service of mankind. Truly, we live in the age of therapy, which, translated, means service. Up to a short time ago medical service, therapy, was limited to the relief of individual ailments. Only bacteriology, especially through the labors of Pasteur and Koch, made public hygiene possible. Since that time we need no longer fear great epidemics, provided altruism and good will always overbalance caprice and self-interest. Where epidemics still do their deadly work among the people, where typhoid and smallpox and tuberculosis and diphtheria still destroy hundreds of thousands of beings entitled to life, there the teachings of modern research have not been heeded. We Americans must not be misled by a

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false sense of patriotism, and we must not bury our sins in the coffin of silence so as to hide them from our own sight and that of others. No pious litanies can purify infected drinking water, no extravagant pensions will pay for the waste of human life which we have so thoughtlessly sacrificed at Chicamauga and Montauk. But much more has been accomplished. The number of our specific remedies—quinine, mercury, iodine, alcohol—has been enriched by the sera and antitoxins, and in atoxyl our guest has made efficacious the most deserving preparation of arsenic.

All this is well known, and I touch upon it only in order to show how highly we all, myself included, prize the inspiring achievements of modern bacteriology and epidemiology. With the increase of his remedies the physician will attain the position where Socrates and Kant and Gladstone wished to see him: he must be recognized as the sage and law-giver.

To attain this aim the bacteriologist and hygienist will eagerly look back to the aid given by Virchow. His gift for comprehensive observation and his fine critical sense made him, even in his youth, look for the disappearance of typhoid fever, not through medicines, but through education in various directions and through the advancement of the material well-being of all classes of the people.

Thus the modern hygienist walks hand in hand with the philosophical physician and the far-sighted statesman. They all stand in need not only of the knowledge of the remedies necessary for the correction of certain conditions, but also of the means of applying this knowledge in the interests of the commonweal. The task of the practical physician not only becomes thereby steadily more important, but also more difficult. He not only bears the responsibility for a particular life in a particular case of illness, but he has in his care also the preservation of the health of the individual, the family, the community. When we have grown to this stage then no longer will there apply to us the reproach of Cyrus, who said, "The doctors work like botchers; they try to remedy the damage when it is done. Take care that the army shall remain well!" That was two thousand four hundred years ago.

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Robert Koch has aimed at both prevention and cure, and has advanced both. He searched for specific treatment of individual cases, and he also, by his preventive measures, relieved humanity of one of the many troubles of life. Many are these troubles. But the science of the last thirty years, which owes so much to Koch, has given us great results and still greater promises. I can discern no greater power for the near or distant future.

When the Panama Canal is once finished, it will owe its existence not to those three hundred million dollars, but to medical science and its practical application. It is Gorgas and the rest of Koch's pupils who build the canal. So also will the West Indies and South America only then become civilized countries, "a free people on a free soil," when further endeavors will be carried on in the spirit of our martyrs, Reed, Lazear, Carroll, and Agramonte. And if ever the class antagonisms in the industrial countries work out in evolution, in peaceful arbitration, and do not break out in revolution it will be only because of science, which makes individual and social life worth living, rendering final death only a normal unavoidable event.

In this sense Koch has been at once in part originator, in part promoter, and he has also exerted a direct influence in every-day practice. It will be of interest to our guest to hear that in this country the scientific and practical results of the research work done by specialists are not confined to our great laboratories and populous cities. In these latter the regular examination of secretions, excretions, and blood in private or municipal institutions, is a matter of daily routine and is recognized as a necessary aid in every-day work. But over and above this, the backwoods of former days have also disappeared.

Many among us who in their own interests consider it advisable or look upon it as a duty to the profession to enter at regular intervals into close relationship with county, State, or other societies, of this or other States, are no longer astonished, but are always highly pleased, to make the observation that we find there our equals in experience and in the good use made of literature. The State Journal of Medicine of this State alone finds its way into

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the hands of seven thousand persons. I doubt that there is anywhere a country physician who does not buy books or subscribe to journals. The demand for exact diagnostic investigations has led to the establishment of district laboratories which, founded by private enthusiasm or at public expense, are rapidly gaining in numbers and in importance.

Thus it comes to pass that all the physicians of all the States speak a more and more uniform scientific language, follow the same scientific methods, and apply the habits of republican sentiment to the theory and practice of the art of healing.

I do not know whether in Europe this endeavor and its practical application would be crowned with the title of scientific method. Our colleagues in the country know, however, that these new methods and knowledge make the young older and the old younger; they call their procedure simply practical or indispensable, or they give it no name at all. They do this, but they do it with full knowledge and appreciation of what we owe to the one man, Robert Koch, and with this result, that our general practitioners are well-informed and successful physicians, that our laboratory workers are looked upon as equals by the best men in Europe. They do this because they, like the rest of us, have learned that one becomes a modern physician not in the laboratory alone,—where one becomes familiar with the teachings and results of laboratory work,—but at the bedside of the sick.

If Robert Koch could but take the time to study us and to describe us—we are so vain as to believe that it is worth while—we and the rest of the one hundred and twenty thousand physicians of the country and the quarter million more physicians abroad would have an exact and valuable picture of the state of our science. Not always did he require *much* time to accomplish great achievements. Anthrax and cholera have cost him but a couple of years. But he who spends three decades on tuberculosis, two decades on mosquitoes, and employs a whole year of watchfulness to investigate the sleeping sickness might as well bestow a couple of years on us Americans. Besides, as he is immortal, he ought not grudge a couple of years.

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And wherever he will turn to look, to study, and to probe, everywhere will Robert Koch be welcome. Come back to us soon, Your Excellency! We have plenty of room for homesteads. We will build for you a hut or a palace, as you like. It will do you no harm, and as for ourselves—they say that we are forever on the lookout for our own benefit—why, it will benefit us also.

One more word. In a few months there will be opened at Washington an International Congress of Tuberculosis. With the aid of the hundreds of men who will visit it from other parts of the world we expect to be able to note progress in science and its application to economic and social conditions. It is unthinkable that the American physicians should not take part in large bodies in the struggle against this greatest enemy of mankind. The greatest enemy of success, however, is procrastination. In the presence of the great and real creator of the Tuberculosis Congress it is proper to admonish all those present and their friends to promise their immediate co-operation. The congress must be a success in the interests of the American medical profession, of the American people, and of the future welfare of humanity. Should Robert Koch be prevented from being with us in person, there will be no participant there who will not "feel the breath of his spirit."

PHILOSOPHY IS USELESS UNLESS IT LEADS TO SOME PRACTICAL GOOD

IF I were to present an address to the American Academy of Political and Social Science I should wish to select as my text a sentence culled from Benjamin Franklin, who declares philosophy to be useless unless it leads to some practical good. Never has anybody expressed the quintessence of individual and collective civilized life more pointedly than that shrewd and wise man. The combination of science and its practical application was never better understood and interpreted; though science was in its infancy at his time and its application limited, accordingly. Since then the discovery of the globe has been going on; electricity and steam have been rendered subservient to human needs; the structure of the human body has been revealed and its normal and morbid functions studied; the declaration of the independence of physiology from metaphysics has been announced, so that each may find and follow its own road; industry, production, and commerce have enriched and revolutionized the world; wealth has increased to an unthought-of degree, and the material required for universal well-being multiplied a hundredfold; the microbic enemies of our race have been discovered and many of them conquered; the duration of life has been doubled,—and still the happiness of mankind is an unsolved problem.

Happiness depends on the conscientious application of all sorts of knowledge to the physical, intellectual, and moral wants of man. Both knowledge and general culture are slow-growing plants which Schiller said demand a blissful sky, much careful nursing, and a long number of springs.

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I think I behold here one of these springs seen by the poet's eye. Men and women have met to add to new stores of knowledge and to listen to the reports of their application in the interest of all. A diversity of subjects will be discussed; not one of them unconnected with the present and the future needs of mankind. It is true that the United States is mentioned in many of the themes proposed for your consideration; but our country is only one of those to be benefited by the study of biology and sociology. Ignorance of them is particularly criminal in a democratic nation whose mutual duties and responsibilities are uniform and general, because it is ourselves that are punished for our shortcomings. When a practitioner of medicine is ignorant, it is his patient that is punished; when the citizens of the republic are ignorant, it is the nation that is punished, and deservedly so. He has no right to be either ignorant or poor.

This association was founded for the study and advancement of social and political science. The very fact that this study is inscribed on your flag proves the warmth of your democratic inclinations and interests, and your wish to transform the results of your knowledge into reality. It exhibits your interest in all classes of our people, of *the* people. Human anatomy and physiology, men's minds and morals, are not governed by classes or class-rule. We in America know perfectly well, and are quite proud of the fact, that, like Napoleon's marshals, many of our so-called aristocrats come from the ranks of newsboys and workmen; and are also aware that indolence and idleness and vice sap families and their ill-spent millions. Unless the laws of physical and moral hygiene are obeyed, and unless those of heredity are minded, any people, any class of people, will suffer like the hundreds of prominent reigning families of Europe that have disappeared, and like so many of the present figure-heads whose physical, esthetic and ethical standards are below the average of the middle class—thus making ready for extinction.

The future of every nation, of this republic, will forever depend on the interest taken by all classes in the physique and the intellect of all classes. In the actual

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life of the nation there are no classes destined either for bad or, for good. It is easily proved that *your* ailments, *your* infectious diseases, the mortality of *your* homes and of *your* class are controlled by those on whose labor you depend. Your tailor and seamstress, your coachman and maid, your stableman and postman, your nurse and teacher, the schoolfellow of your child, your railroad employees, the district telegraph boy,—they are your dangers, and thereby your masters and makers of your destinies. What you do for them you do for yourselves. Their tuberculosis, their diphtheria, their scarlatina, influenza, meningitis, are liable to become yours also. And as there is a contagion in the physical atmosphere, so in the moral and intellectual. The study of individual and collective hygiene, when correctly and systematically carried on, leads to the demand for and the practice of popular and racial improvement. The mutual interest displayed and the results gradually obtained lead also to mutual understanding. That is why those Europeans amongst us who fifty years ago believed in no popular progress except through *revolution*, could, by the determined American effort in behalf of the study and teaching of dangers and their removal, be taught to pin their faith to *evolution*. What you are accomplishing in your Academy in the way of learning and of the dissemination of knowledge you are doing for mutual forbearing and co-operation. There is no country in which the people are more intent on learning, on teaching and mutual aid, than America. Mutual help is now as much a natural phenomenon with us as mutual warfare has formerly been believed to be inevitable. So what you are contributing by your endeavors is peace and harmony, both here and elsewhere.

That is much more logical than it looks in the presence of strife, and extortion, and murder, which is not all alien. But crime is individual, rarely epidemic, while the ethical progress of the nations, like their industry, is slow but persistent, in both its social and political bearings, the study of which is your object. The two belong together. They condition each other and more than today—though I am not given to prophecy—when our

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politics will have become purer, the twin studies will no longer be, in our present sense political, but more and more physical and social. The political existence of the nations and their governments will more than ever become dependent on social conditions, in the sense of Aristotle, who called man a rational and free political animal. The politics of the people at large must become more than ever social. Some call them socialistic. Even to-day the people do not enjoy bosses and partisan animosities. They need and gradually lean more to humane tendencies. While expecting obedience to our self-made laws, this republic recognizes *that*, and no hard words dictated to high or low, by prejudice or ignorance, ought to sway public opinion. The terms social, socialistic, socialism will lose their terror when we consider that the very socialists construe the meaning of their gospel differently, in a country of free speech and free press. Free speech may be sadly abused, however,—that is true; for thunder and lightning have been fired against what was presumed to be “socialism” without an attempt at definition, and without carrying conviction or bringing any other result. I have been told that though a man displays both thunder and lightning, he is not necessarily a Jupiter.

But I do know that when intelligent and public-spirited men and women come together all over the country for the scientific and altruistic discussion of questions concerning the physical, mental, and moral interests of all classes, rich and poor, old and young, the results must be beneficent and good must come to the present and future generations of the American people.

Your problem is far from being a hopeless one.

REMARKS AT BANQUET IN HONOR OF DR. CHARLES K. MILLS, MARCH 13, 1909

My thanks are due to your Executive Committee for permitting me to be present at this celebration. I like to come to Philadelphia, for I have one, though it be one only, of the qualities of Solon. He happened to be a very wise man—one of the dead; most wise men die young, that is why there are so few of them. He admitted: "I am getting old, but there is so much to learn." That is why I come here, to pick up things leisurely. I'll do it leisurely.

I have always been told that Philadelphia was a leisurely slow town. Even W. W. Keen,—who never was charged with being slower than steam, electricity, and light,—said upon a solemn occasion a few years ago, at the annual meeting of our State Society, that he was glad to get away a few hours from slow Philadelphia. That is why he appeared in Albany,—fast, lightning-fast, Albany,—so fast, indeed, that it seldom takes us more than twenty-five years to get a decent educational bill, or a part of it, through the Legislature.

Philadelphia is slow. That is why it had its Phipps Institute many years before the Rockefeller was thought of; published thirty volumes of Transactions of the College of Physicians in less time than it took the New York Academy of Medicine to exhibit half that number; gathered money, cash money, for a big new building in a year or two, while it takes us a decade to gather hopes and deficits; it takes one or two Philadelphians, so it seems, just a few well-appointed words to get millions out of the city and State, while we in New York have wealthy men, rich visions, and bountiful disappointments. That is why I,—like Saul while working at the roadside,—like to join the prophets, and here I came, in spite of the unpropitious climate of Philadelphia, which succeeded in freezing out

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within a very few years at least three dying medical weeklies, to offer my thanks and my congratulations to the famous guest of the evening.

Thanks are due to a man who in the course of several dozens of years has added to our thought and knowledge and enriched our literature by his contributions, more weighty than bulky; and has proved a fertile teacher to many medical classes and to endless numbers of men who do not cease their studies with the pocketing of their diplomas. As far as I know, he has written only one big book, *nonum pressum in annum*, that is why it is a *great* book,—and without the imprint visible on its pages of the modern publishers' initiative. There is the report of a Roman lady who during a *Kaffeeeklatsch* was asked to show her treasures. She sent for her son. She was asked how many she had, and replied: "Only one, but he is a lion,"—*unum, sed leonem*.

Not one of his many papers has been made to order, nor have they any connection with bank accounts. They do not crowd us out of our houses. Maybe you do not know that modern houses are not big enough for modern literature, the product, too often, of commercial enterprise, and tradesmen's compilations, and compilers' scissors, and writers' posteriors.

And congratulations are due and tendered with all my heart to a gentleman who has quietly, and earnestly, and successfully, worked intellectually and practically, with no intention except to do his duty to his profession, and his science, and his community, and who has earned the esteem and gratitude of his professional brethren, as demonstrated by this concourse of men who have met to do him honor.

No matter how modest and retiring a man may be, he must feel gratified at being the center of attention once in a while. Old Perseus knew that quite well, Dr. Mills: "*At pulchrum est digito monstrari et dici hic est*,"—it is a fine thing to be pointed out and to hear them say: "That is he."

I ought to stop here. But your programme asks for something connected with the general practitioner. Are

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there any here? I hope I am not alone,—hating to speak of myself. I think I see a few pediatrists here. That tribe, in its best specimens, to which I do not exactly belong yet, I have always considered as the cream of general practitioners. Then there are others,—there is Tyson, and Cohen, and Daland, young S. Weir Mitchell, and others. But our ranks are still fuller. The Archives of Internal Medicine, of February 15, 1909, contain an article on the “Anatomic explanation of the greater amount of vocal fremitus and vocal resonance normally found at the apex of the right lung.” That is a big title, but telling; such a one as I should expect of one of my thorough colleagues amongst the practitioners. If there be a man worthy of a permanent place amongst *us*, the internists, or general practitioners,—call us what you please,—it is Dr. George Fetterolf of Philadelphia. So I shall speak of them and their relation to specialties, in particular to that of Dr. Mills, provided he still claims,—or some one for him,—to be a specialist on the most obscure and most valuable investment nature ever made in any born creature. In the writings of Dr. Mills I have always discovered the all-around doctor.

Nor does he confine himself to strictly professional topics. That brief paper of his on “Education,” published many years ago in the *Popular Science Monthly*, would be enough to convince us of his reaching out beyond the limits of the prevention and cure of physical disease into the realms of philosophical and public-spirited citizenship. As long as our greatest specialists follow his example we need not despair of the indispensability of specialties, both as subjects of research and as specimens of useful and humanitarian activity. *Their* works add to *our* wealth, and no one will be more anxious to sit at their feet than the general practitioner, the physician of the people. He reasons in the way old Alkmaeion did when he said that about invisible things only gods had absolute certainty. These gods in the departments of things medical are for us physicians the erudite and profound specialists. *We* are, we must be, satisfied with combining and correlating the results of their studies. It is in that way that the best

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elements amongst the general practitioners become not only the proper advisers of the sick individual, but also the counsellors of the public at large, its sanitarians and protectors, and furnish the statesmen in medicine. If ever our government becomes enlightened enough to enjoy the benefits to be derived by the people from a health officer in a Cabinet position, that officer will be a clinician, a general practitioner, an all-around modern Hippocrates, taught by and evolved out of the clinical and laboratory specialties. To that result we may all contribute,—those few old enough to have lived through many generations, and only able at this juncture, but anxious, to express their regrets at leaving so many debts unpaid, and those many young ones eager and able to pay them,—each of them remembering “not to let him that putteth his hand to the plough look backward.”

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